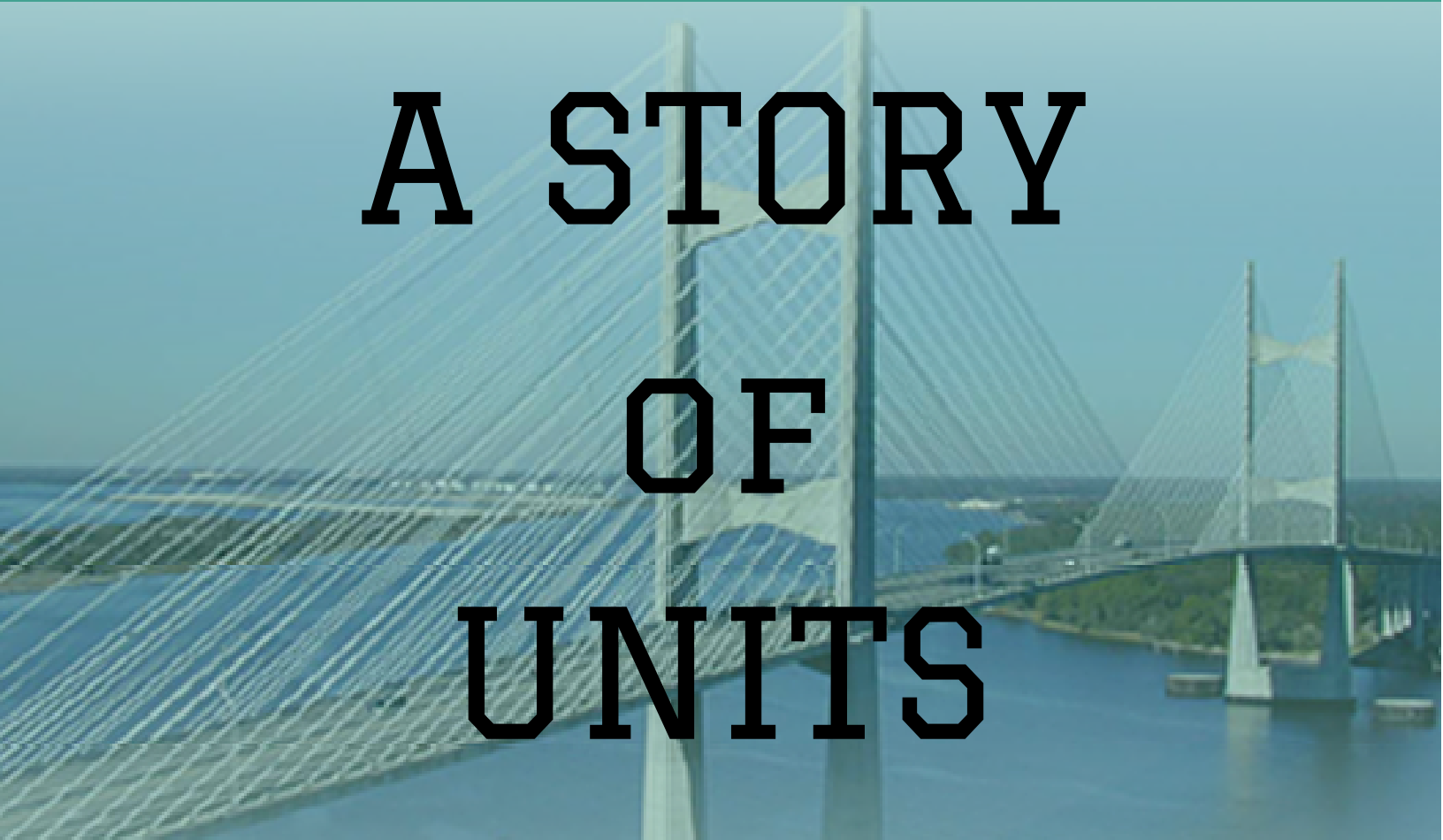


DUVAL MATH



A STORY
OF
UNITS

FIFTH GRADE
MODULE 2



DUVAL COUNTY
PUBLIC SCHOOLS

STUDENT WORKBOOK



Name _____ Date _____

1. Fill in the blanks using your knowledge of place value units and basic facts.

| | |
|---|--|
| a. 23×20 Think: 23 ones \times 2 tens = _____ tens $23 \times 20 =$ _____ | b. 230×20 Think: 23 tens \times 2 tens = _____ $230 \times 20 =$ _____ |
| c. 41×4 41 ones \times 4 ones = 164 _____ $41 \times 4 =$ _____ | d. 410×400 41 tens \times 4 hundreds = 164 _____ $410 \times 400 =$ _____ |
| e. $3,310 \times 300$ _____ tens \times _____ hundreds = 993 _____ $3,310 \times 300 =$ _____ | f. 500×600 _____ hundreds \times _____ hundreds = 30 _____ $500 \times 600 =$ _____ |

2. Determine if these equations are true or false. Defend your answer using your knowledge of place value and the commutative, associative, and/or distributive properties.

a. 6 tens = 2 tens \times 3 tens

b. $44 \times 20 \times 10 = 440 \times 2$

c. 86 ones \times 90 hundreds = 86 ones \times 900 tens

d. $64 \times 8 \times 100 = 640 \times 8 \times 10$



e. $57 \times 2 \times 10 \times 10 \times 10 = 570 \times 2 \times 10$

3. Find the products. Show your thinking. The first row gives some ideas for showing your thinking.

| | | | | |
|----|------------------------|--|--|--|
| a. | 7×9 $= 63$ | 7×90 $= 63 \times 10$ $= 630$ | 70×90 $= (7 \times 10) \times (9 \times 10)$ $= (7 \times 9) \times 100$ $= 6,300$ | 70×900 $= (7 \times 9) \times (10 \times 100)$ $= 63,000$ |
|----|------------------------|--|--|--|

| | | | | |
|----|---------------|----------------|-----------------|------------------|
| b. | 45×3 | 45×30 | 450×30 | 450×300 |
|----|---------------|----------------|-----------------|------------------|

| | | | | |
|----|---------------|----------------|-----------------|--------------------|
| c. | 40×5 | 40×50 | 40×500 | $400 \times 5,000$ |
|----|---------------|----------------|-----------------|--------------------|

| | | | | |
|----|----------------|-------------------|--------------------|-----------------------|
| d. | 718×2 | $7,180 \times 20$ | $7,180 \times 200$ | $71,800 \times 2,000$ |
|----|----------------|-------------------|--------------------|-----------------------|



4. Ripley told his mom that multiplying whole numbers by multiples of 10 was easy because you just count zeros in the factors and put them in the product. He used these two examples to explain his strategy.

$$\begin{array}{r} 7,000 \times 600 = 4,200,000 \\ (3 \text{ zeros}) \quad (2 \text{ zeros}) \quad (5 \text{ zeros}) \end{array}$$

$$\begin{array}{r} 800 \times 700 = 560,000 \\ (2 \text{ zeros}) \quad (2 \text{ zeros}) \quad (4 \text{ zeros}) \end{array}$$

Ripley's mom said his strategy will not always work. Why not? Give an example.

5. The Canadian side of Niagara Falls has a flow rate of 600,000 gallons per second. How many gallons of water flow over the falls in 1 minute?

6. Tickets to a baseball game are \$20 for an adult and \$15 for a student. A school buys tickets for 45 adults and 600 students. How much money will the school spend for the tickets?





Name _____

Date _____

1. Fill in the blanks using your knowledge of place value units and basic facts.

a. 43×30

Think: 43 ones \times 3 tens = **129** tens

$43 \times 30 = \underline{1,290}$

b. 430×30

Think: 43 tens \times 3 tens = _____ hundreds

$430 \times 30 = \underline{\hspace{2cm}}$

c. 830×20

Think: 83 tens \times 2 tens = 166 _____

$830 \times 20 = \underline{\hspace{2cm}}$

d. $4,400 \times 400$

_____ hundreds \times _____ hundreds = 176 _____

$4,400 \times 400 = \underline{\hspace{2cm}}$

e. $80 \times 5,000$

_____ tens \times _____ thousands = 40 _____

$80 \times 5,000 = \underline{\hspace{2cm}}$

2. Determine if these equations are true or false. Defend your answer using your knowledge of place value and the commutative, associative, and/or distributive properties.

a. 35 hundreds = 5 tens \times 7 tens

b. $770 \times 6 = 77 \times 6 \times 100$

c. 50 tens \times 4 hundreds = 40 tens \times 5 hundreds

d. $24 \times 10 \times 90 = 90 \times 2,400$



3. Find the products. Show your thinking. The first row gives some ideas for showing your thinking.

| | | | |
|---------------------------|--|--|--|
| a. 5×5 $= 25$ | 5×50 $= 25 \times 10$ $= 250$ | 50×50 $= (5 \times 10) \times (5 \times 10)$ $= (5 \times 5) \times 100$ $= 2,500$ | 50×500 $= (5 \times 5) \times (10 \times 100)$ $= 25,000$ |
|---------------------------|--|--|--|

| | | | |
|------------------|----------------|------------------|-------------------|
| b. 80×5 | 80×50 | 800×500 | $8,000 \times 50$ |
|------------------|----------------|------------------|-------------------|

| | | | |
|-------------------|-------------------|--------------------|---------------------|
| c. 637×3 | $6,370 \times 30$ | $6,370 \times 300$ | $63,700 \times 300$ |
|-------------------|-------------------|--------------------|---------------------|

4. A concrete stepping-stone measures 20 square inches. What is the area of 30 such stones?

5. A number is 42,300 when multiplied by 10. Find the product of this number and 500.

$$\begin{aligned} &42,300 \times 500 \\ &(4,230 \times 10) \times (50 \times 100) \\ &(423 \times 5) \times (10 \times 100) \\ &(400 \times 5 + 20 \times 5 + 3 \times 5) \times (1,000) \\ &(2,000 + 100 + 15) \times (1,000) \\ &2,115 \times 1,000 \\ &2,115,000 \end{aligned}$$



| | | | | | | |
|-------------------|-------------------|---|---|---|---|---|
| $\frac{1}{1,000}$ | Thousandths | | | | | |
| $\frac{1}{100}$ | Hundredths | | | | | |
| $\frac{1}{10}$ | Tenths | | | | | |
| • | • | • | • | • | • | • |
| 1 | Ones | | | | | |
| 10 | Tens | | | | | |
| 100 | Hundreds | | | | | |
| 1,000 | Thousands | | | | | |
| 10,000 | Ten Thousands | | | | | |
| 100,000 | Hundred Thousands | | | | | |
| 1,000,000 | Millions | | | | | |

millions to thousandths place value chart



Name _____ Date _____

1. Round the factors to estimate the products.

a. $597 \times 52 \approx$ _____ \times _____ $=$ _____

A reasonable estimate for 597×52 is _____.

b. $1,103 \times 59 \approx$ _____ \times _____ $=$ _____

A reasonable estimate for $1,103 \times 59$ is _____.

c. $5,840 \times 25 \approx$ _____ \times _____ $=$ _____

A reasonable estimate for $5,840 \times 25$ is _____.

2. Complete the table using your understanding of place value and knowledge of rounding to estimate the product.

| Expressions | Rounded Factors | Estimate |
|----------------------------------|-------------------|----------|
| a. $2,809 \times 42$ | $3,000 \times 40$ | 120,000 |
| b. $28,090 \times 420$ | | |
| c. $8,932 \times 59$ | | |
| d. 89 tens \times 63 tens | | |
| e. 398 hundreds \times 52 tens | | |



3. For which of the following expressions would 200,000 be a reasonable estimate? Explain how you know.

$2,146 \times 12$

$21,467 \times 121$

$2,146 \times 121$

$21,477 \times 1,217$

4. Fill in the missing factors to find the given estimated product.

a. $571 \times 43 \approx \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = 24,000$

b. $726 \times 674 \approx \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = 490,000$

c. $8,379 \times 541 \approx \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = 4,000,000$

5. There are 19,763 tickets available for a New York Knicks home game. If there are 41 home games in a season, about how many tickets are available for all the Knicks' home games?

6. Michael saves \$423 dollars a month for college.

a. About how much money will he have saved after 4 years?

b. Will your estimate be lower or higher than the actual amount Michael will save? How do you know?



Name _____

Date _____

1. Round the factors to estimate the products.

a. $697 \times 82 \approx$ _____ \times _____ $=$ _____

A reasonable estimate for 697×82 is _____.

b. $5,897 \times 67 \approx$ _____ \times _____ $=$ _____

A reasonable estimate for $5,897 \times 67$ is _____.

c. $8,840 \times 45 \approx$ **9,000** \times **50** $=$ **450,000**

A reasonable estimate for $8,840 \times 45$ is **450,000**.

2. Complete the table using your understanding of place value and knowledge of rounding to estimate the product.

| Expressions | Rounded Factors | Estimate |
|----------------------------------|-------------------|----------|
| a. $3,409 \times 73$ | $3,000 \times 70$ | 210,000 |
| b. $82,290 \times 240$ | | |
| c. $9,832 \times 39$ | | |
| d. 98 tens \times 36 tens | | |
| e. 893 hundreds \times 85 tens | | |

3. The estimated answer to a multiplication problem is 800,000. Which of the following expressions could result in this answer? Explain how you know.

$8,146 \times 12$

$81,467 \times 121$

$8,146 \times 121$

$81,477 \times 1,217$



4. Fill in the blank with the missing estimate.

a. $751 \times 34 \approx \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = 24,000$

b. $627 \times 674 \approx \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = 420,000$

c. $7,939 \times 541 \approx \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = 4,000,000$

5. In a single season, the New York Yankees sell an average of 42,362 tickets for each of their 81 home games. About how many tickets do they sell for an entire season of home games?

$40,000 \times 80 = 3,200,000$ tickets

6. Raphael wants to buy a new car.

a. He needs a down payment of \$3,000. If he saves \$340 each month, about how many months will it take him to save the down payment?

b. His new car payment will be \$288 each month for five years. What is the total of these payments?



Name _____

Date _____

1. Draw a model. Then, write the numerical expressions.

| | |
|---|--------------------------------------|
| a. The sum of 8 and 7, doubled | b. 4 times the sum of 14 and 26 |
| c. 3 times the difference between 37.5 and 24.5 | d. The sum of 3 sixteens and 2 nines |
| e. The difference between 4 twenty-fives and 3 twenty-fives | f. Triple the sum of 33 and 27 |



2. Write the numerical expressions in words. Then, solve.

| Expression | Words | The Value of the Expression |
|-----------------------------------|-------|-----------------------------|
| a. $12 \times (5 + 25)$ | | |
| b. $(62 - 12) \times 11$ | | |
| c. $(45 + 55) \times 23$ | | |
| d. $(30 \times 2) + (8 \times 2)$ | | |

3. Compare the two expressions using $>$, $<$, or $=$. In the space beneath each pair of expressions, explain how you can compare without calculating. Draw a model if it helps you.

| | | |
|-------------------------|-----------------------|---------------------------------------|
| a. $24 \times (20 + 5)$ | <input type="radio"/> | $(20 + 5) \times 12$ |
| b. 18×27 | <input type="radio"/> | 20 twenty-sevens minus 1 twenty-seven |
| c. 19×9 | <input type="radio"/> | 3 nineteens, tripled |



4. Mr. Huynh wrote *the sum of 7 fifteens and 38 fifteens* on the board.
Draw a model, and write the correct expression.

5. Two students wrote the following numerical expressions.

Angeline: $(7 + 15) \times (38 + 15)$

MeiLing: $15 \times (7 + 38)$

Are the students' expressions equivalent to your answer in Problem 4? Explain your answer.

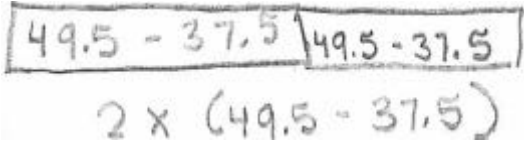
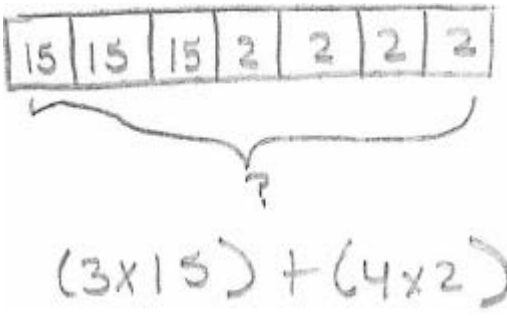
6. A box contains 24 oranges. Mr. Lee ordered 8 boxes for his store and 12 boxes for his restaurant.
- Write an expression to show how to find the total number of oranges ordered.
 - Next week, Mr. Lee will double the number of boxes he orders. Write a new expression to represent the number of oranges in next week's order.
 - Evaluate your expression from Part (b) to find the total number of oranges ordered in both weeks.



Name _____

Date _____

1. Draw a model. Then, write the numerical expressions.

| | |
|--|--|
| a. The sum of 21 and 4, doubled | b. 5 times the sum of 7 and 23 |
| c. 2 times the difference between 49.5 and 37.5  | d. The sum of 3 fifteens and 4 twos  |
| e. The difference between 9 thirty-sevens and 8 thirty-sevens | f. Triple the sum of 45 and 55 |



2. Write the numerical expressions in words. Then, solve.

| Expression | Words | The Value of the Expression |
|------------------------------------|-------|-----------------------------|
| a. $10 \times (2.5 + 13.5)$ | | |
| b. $(98 - 78) \times 11$ | | |
| $(71 + 29) \times 26$ | | |
| c. $(50 \times 2) + (15 \times 2)$ | | |

3. Compare the two expressions using $>$, $<$, or $=$. In the space beneath each pair of expressions, explain how you can compare without calculating. Draw a model if it helps you.

| | | |
|-------------------------|--|---|
| a. $93 \times (40 + 2)$ | | $(40 + 2) \times 39$ 93 times the sum of 40 and 20 is greater than 39 times the sum of 40 and 20. |
| b. 61×25 | | 60 twenty-fives minus 1 twenty-five |



4. Larry claims that $(14 + 12) \times (8 + 12)$ and $(14 \times 12) + (8 \times 12)$ are equivalent because they have the same digits and the same operations.

a. Is Larry correct? Explain your thinking.

b. Which expression is greater? How much greater?



Name _____ Date _____

1. Circle each expression that is not equivalent to the expression in **bold**.

a. **16 × 29**

- 29 sixteens
- $16 \times (30 - 1)$
- $(15 - 1) \times 29$
- $(10 \times 29) - (6 \times 29)$

b. **38 × 45**

- $(38 + 40) \times (38 + 5)$
- $(38 \times 40) + (38 \times 5)$
- $45 \times (40 + 2)$
- 45 thirty-eights

c. **74 × 59**

- $74 \times (50 + 9)$
- $74 \times (60 - 1)$
- $(74 \times 5) + (74 \times 9)$
- 59 seventy-fours

2. Solve using mental math. Draw a tape diagram and fill in the blanks to show your thinking. The first one is partially done for you.

| | | | | | | | | | | | | | |
|---|----|----|-----|-----|---------------|---------------|---|---|---|-----|----|----|--|
| <p>a. $19 \times 25 =$ _____ twenty-fives</p> <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 5px;">25</td> <td style="padding: 5px;">25</td> <td style="padding: 5px;">25</td> <td style="padding: 5px;">...</td> <td style="padding: 5px;">25</td> <td style="padding: 5px; border: 2px solid black;">25</td> </tr> <tr> <td style="padding: 5px;">1</td> <td style="padding: 5px;">2</td> <td style="padding: 5px;">3</td> <td style="padding: 5px;">...</td> <td style="padding: 5px;">19</td> <td style="padding: 5px;">20</td> </tr> </table> <p>Think: 20 twenty-fives – 1 twenty-five.</p> <p>= (_____ \times 25) – (_____ \times 25)</p> <p>= _____ – _____</p> <p>= _____</p> | 25 | 25 | 25 | ... | 25 | 25 | 1 | 2 | 3 | ... | 19 | 20 | <p>b. $24 \times 11 =$ _____ twenty-fours</p> <p>Think: _____ twenty fours + _____ twenty four</p> <p>= (_____ \times 24) + (_____ \times 24)</p> <p>= _____ + _____</p> <p>= _____</p> |
| 25 | 25 | 25 | ... | 25 | 25 | | | | | | | | |
| 1 | 2 | 3 | ... | 19 | 20 | | | | | | | | |



c. $79 \times 14 =$ _____ fourteens

Think: _____ fourteens – 1 fourteen
 $=$ (_____ \times 14) – (_____ \times 14)
 $=$ _____ – _____
 $=$ _____

d. $21 \times 75 =$ _____ seventy-fives

Think: _____ seventy-fives + _____ seventy-five
 $=$ (_____ \times 75) + (_____ \times 75)
 $=$ _____ + _____
 $=$ _____

3. Define the unit in word form and complete the sequence of problems as was done in the lesson.

a. $19 \times 15 = 19$ _____

Think: 20 _____ – 1 _____
 $=$ (20 \times _____) – (1 \times _____)
 $=$ _____ – _____
 $=$ _____

b. $14 \times 15 = 14$ _____

Think: 10 _____ + 4 _____
 $=$ (10 \times _____) + (4 \times _____)
 $=$ _____ + _____
 $=$ _____



| | |
|--|--|
| <p>c. $25 \times 12 = 12$ _____</p> <p>Think: 10 _____ $+ 2$ _____</p> <p>$= (10 \times \text{_____}) + (2 \times \text{_____})$</p> <p>$=$ _____ $+$ _____</p> <p>$=$ _____</p> | <p>d. $18 \times 17 = 18$ _____</p> <p>Think: 20 _____ $- 2$ _____</p> <p>$= (20 \times \text{_____}) - (2 \times \text{_____})$</p> <p>$=$ _____ $-$ _____</p> <p>$=$ _____</p> |
|--|--|

4. How can 14×50 help you find 14×49 ?
5. Solve mentally.
- a. $101 \times 15 =$ _____
- b. $18 \times 99 =$ _____
6. Saleem says 45×32 is the same as $(45 \times 3) + (45 \times 2)$. Explain Saleem's error using words, numbers, and/or pictures.
7. Juan delivers 174 newspapers every day. Edward delivers 126 more newspapers each day than Juan.
- a. Write an expression to show how many newspapers Edward will deliver in 29 days.
- b. Use mental math to solve. Show your thinking.



Estimate and then multiply.

| | | | | | |
|----|-------------------------|--|----|-------------------------|--|
| 1 | $29 \times 11 \approx$ | | 23 | $801 \times 31 \approx$ | |
| 2 | $29 \times 21 \approx$ | | 24 | $803 \times 31 \approx$ | |
| 3 | $29 \times 31 \approx$ | | 25 | $703 \times 31 \approx$ | |
| 4 | $23 \times 12 \approx$ | | 26 | $43 \times 34 \approx$ | |
| 5 | $23 \times 22 \approx$ | | 27 | $53 \times 34 \approx$ | |
| 6 | $23 \times 32 \approx$ | | 28 | $53 \times 31 \approx$ | |
| 7 | $23 \times 42 \approx$ | | 29 | $53 \times 51 \approx$ | |
| 8 | $37 \times 13 \approx$ | | 30 | $93 \times 31 \approx$ | |
| 9 | $37 \times 23 \approx$ | | 31 | $913 \times 31 \approx$ | |
| 10 | $36 \times 24 \approx$ | | 32 | $73 \times 31 \approx$ | |
| 11 | $24 \times 36 \approx$ | | 33 | $723 \times 31 \approx$ | |
| 12 | $43 \times 11 \approx$ | | 34 | $78 \times 34 \approx$ | |
| 13 | $43 \times 21 \approx$ | | 35 | $798 \times 34 \approx$ | |
| 14 | $403 \times 21 \approx$ | | 36 | $62 \times 33 \approx$ | |
| 15 | $303 \times 21 \approx$ | | 37 | $642 \times 33 \approx$ | |
| 16 | $203 \times 21 \approx$ | | 38 | $374 \times 64 \approx$ | |
| 17 | $41 \times 11 \approx$ | | 39 | $64 \times 374 \approx$ | |
| 18 | $41 \times 21 \approx$ | | 40 | $740 \times 36 \approx$ | |
| 19 | $41 \times 31 \approx$ | | 41 | $750 \times 36 \approx$ | |
| 20 | $401 \times 31 \approx$ | | 42 | $65 \times 680 \approx$ | |
| 21 | $501 \times 31 \approx$ | | 43 | $849 \times 84 \approx$ | |
| 22 | $601 \times 31 \approx$ | | 44 | $85 \times 849 \approx$ | |

estimate products



Name _____ Date _____

1. Draw an area model, and then solve using the standard algorithm. Use arrows to match the partial products from the area model to the partial products of the algorithm.

a. $34 \times 21 =$ _____

$$\begin{array}{r} 34 \\ \times 21 \\ \hline \end{array}$$

b. $434 \times 21 =$ _____

$$\begin{array}{r} 434 \\ \times 21 \\ \hline \end{array}$$

2. Solve using the standard algorithm.

a. $431 \times 12 =$ _____

b. $123 \times 23 =$ _____

c. $312 \times 32 =$ _____



Name _____ Date _____

1. Draw an area model, and then solve using the standard algorithm. Use arrows to match the partial products from the area model to the partial products in the algorithm.

a. $24 \times 21 =$ _____

$$\begin{array}{r}
 24 \\
 \times 21 \\
 \hline
 \end{array}$$

b. $242 \times 21 =$ _____

2. Solve using the standard algorithm.

a. $314 \times 22 =$ _____

b. $413 \times 22 =$ _____

c. $213 \times 32 =$ _____



Solve.

| | | | | | |
|----|-------------------|--|----|-------------------|--|
| 1 | $5 \times 100 =$ | | 23 | $5000 - 50 =$ | |
| 2 | $500 - 5 =$ | | 24 | $50 \times 99 =$ | |
| 3 | $5 \times 99 =$ | | 25 | $80 \times 100 =$ | |
| 4 | $3 \times 100 =$ | | 26 | $80 \times 99 =$ | |
| 5 | $300 - 3 =$ | | 27 | $60 \times 100 =$ | |
| 6 | $3 \times 99 =$ | | 28 | $60 \times 99 =$ | |
| 7 | $2 \times 100 =$ | | 29 | $11 \times 100 =$ | |
| 8 | $200 - 2 =$ | | 30 | $1100 - 11 =$ | |
| 9 | $2 \times 99 =$ | | 31 | $11 \times 99 =$ | |
| 10 | $6 \times 100 =$ | | 32 | $21 \times 100 =$ | |
| 11 | $600 - 6 =$ | | 33 | $2100 - 21 =$ | |
| 12 | $6 \times 99 =$ | | 34 | $21 \times 99 =$ | |
| 13 | $4 \times 100 =$ | | 35 | $31 \times 100 =$ | |
| 14 | $4 \times 99 =$ | | 36 | $31 \times 99 =$ | |
| 15 | $7 \times 100 =$ | | 37 | $71 \times 100 =$ | |
| 16 | $7 \times 99 =$ | | 38 | $71 \times 99 =$ | |
| 17 | $9 \times 100 =$ | | 39 | $42 \times 100 =$ | |
| 18 | $9 \times 99 =$ | | 40 | $42 \times 99 =$ | |
| 19 | $8 \times 100 =$ | | 41 | $53 \times 99 =$ | |
| 20 | $8 \times 99 =$ | | 42 | $64 \times 99 =$ | |
| 21 | $5 \times 100 =$ | | 43 | $75 \times 99 =$ | |
| 22 | $50 \times 100 =$ | | 44 | $97 \times 99 =$ | |

mental multiplication



Name _____

Date _____

1. Draw an area model. Then, solve using the standard algorithm. Use arrows to match the partial products from your area model to the partial products in the algorithm.

a. 48×35

$$\begin{array}{r} 48 \\ \times 35 \\ \hline \end{array}$$

b. 648×35

$$\begin{array}{r} 648 \\ \times 35 \\ \hline \end{array}$$



2. Solve using the standard algorithm.

a. 758×92

b. 958×94

c. 476×65

d. 547×64

3. Carpet costs \$16 a square foot. A rectangular floor is 16 feet long by 14 feet wide. How much would it cost to carpet the floor?



Name _____

Date _____

1. Draw an area model. Then, solve using the standard algorithm. Use arrows to match the partial products from your area model to the partial products in the algorithm.

a. 27×36

$$\begin{array}{r} 27 \\ \times 36 \\ \hline \end{array}$$

b. 527×36

b. 527×36

| | | | | |
|----|-------|-----|-----|--------------------------------------|
| | 300 | 20 | 7 | |
| 6 | 3000 | 120 | 42 | 3000 120 42 <u>3,162</u> |
| 30 | 15000 | 600 | 210 | 15000 600 210 <u>15,810</u> |

$$\begin{array}{r} 14 \\ 527 \\ \times 36 \\ \hline 3162 \\ +15810 \\ \hline 18972 \end{array}$$

2. Solve using the standard algorithm.

a. 649×53

b. 496×53

c. 758×46

d. 529×48



3. Each of the 25 students in Mr. McDonald's class sold 16 raffle tickets. If each ticket costs \$15, how much money did Mr. McDonald's students raise?

Step 1:

$$\begin{array}{r} 25 \\ \times 16 \\ \hline \end{array}$$

| | | | |
|----|-----|----|-------------------|
| | 20 | 5 | |
| 6 | 120 | 30 | = 150 |
| 10 | 200 | 50 | = +250 |
| | | | <hr/> 400 tickets |

Step 2: Now how do we find out how much money they raised?

4. Jayson buys a car and pays by installments. Each installment is \$567 per month. After 48 months, Jayson owes \$1,250. What was the total price of the vehicle?



Name _____

Date _____

1. Draw an area model. Then, solve using the standard algorithm. Use arrows to match the partial products from the area model to the partial products in the algorithm.

a. 481×352

$$\begin{array}{r} 481 \\ \times 352 \\ \hline \end{array}$$

b. 481×302

$$\begin{array}{r} 481 \\ \times 302 \\ \hline \end{array}$$

c. Why are there three partial products in 1(a) and only two partial products in 1(b)?

DUVAL COUNTY
PUBLIC SCHOOLS

2. Solve by drawing the area model and using the standard algorithm.

a. $8,401 \times 305$

$$\begin{array}{r} 8,401 \\ \times \quad 305 \\ \hline \end{array}$$

b. $7,481 \times 350$

$$\begin{array}{r} 7,481 \\ \times \quad 350 \\ \hline \end{array}$$

3. Solve using the standard algorithm.

a. 346×27

b. $1,346 \times 297$



c. 346×207

d. $1,346 \times 207$

4. A school district purchased 615 new laptops for their mobile labs. Each computer cost \$409. What is the total cost for all of the laptops?

5. A publisher prints 1,512 copies of a book in each print run. If they print 305 runs, how many books will be printed?

6. As of the 2010 census, there were 3,669 people living in Marlboro, New York. Brooklyn, New York, has 681 times as many people. How many more people live in Brooklyn than in Marlboro?



Name _____

Date _____

1. Draw an area model. Then, solve using the standard algorithm. Use arrows to match the partial products from your area model to the partial products in your algorithm.

a. 273×346

$$\begin{array}{r} 273 \\ \times \underline{346} \end{array}$$

b. 273×306

$$\begin{array}{r} 273 \\ \times \underline{306} \end{array}$$

- c. Both Parts (a) and (b) have three-digit multipliers. Why are there three partial products in Part (a) and only two partial products in Part (b)?



2. Solve by drawing the area model and using the standard algorithm.

a. $7,481 \times 290$

b. $7,018 \times 209$

3. Solve using the standard algorithm.

a. 426×357

b. $1,426 \times 357$

Handwritten standard algorithm for 426×357 :

$$\begin{array}{r} 426 \\ \times 357 \\ \hline 2982 \\ 21300 \\ +127800 \\ \hline 152,082 \end{array}$$



c. 426×307

d. $1,426 \times 307$

4. The Hudson Valley Renegades Stadium holds a maximum of 4,505 people. During the height of their popularity, they sold out 219 consecutive games. How many tickets were sold during this time?
5. One Saturday at the farmer's market, each of the 94 vendors made \$502 in profit. How much profit did all vendors make that Saturday?



Name _____

Date _____

1. Estimate the product first. Solve by using the standard algorithm. Use your estimate to check the reasonableness of the product.

| | | |
|---|-----------------------|-----------------------|
| a. 213×328 $\approx 200 \times 300$ $= 60,000$ $\begin{array}{r} 213 \\ \times 328 \\ \hline \end{array}$ | b. 662×372 | c. 739×442 |
| d. 807×491 | e. $3,502 \times 656$ | f. $4,390 \times 741$ |
| g. $530 \times 2,075$ | h. $4,004 \times 603$ | i. $987 \times 3,105$ |



4. So far, Carmella has collected 14 boxes of baseball cards. There are 315 cards in each box. Carmella estimates that she has about 3,000 cards, so she buys 6 albums that hold 500 cards each.

a. Will the albums have enough space for all of her cards? Why or why not?

b. How many cards does Carmella have?

c. How many albums will she need for all of her baseball cards?



Name _____

Date _____

1. Estimate the product first. Solve by using the standard algorithm. Use your estimate to check the reasonableness of the product.

| | | |
|---|---|-----------------------|
| a. 312×149 $\approx 300 \times 100$ $= 30,000$ $\begin{array}{r} 312 \\ \times 149 \\ \hline \end{array}$ | b. 743×295 | c. 428×637 |
| d. 691×305 | e. $4,208 \times 606$ | f. $3,068 \times 523$ |
| g. $430 \times 3,064$ | h. $3,007 \times 502$ $\approx 3,000 \times 500$ $\approx 1,500,000$ $\begin{array}{r} 3007 \\ \times 502 \\ \hline 6014 \\ 1503500 \\ \hline 1,509,514 \end{array}$ | i. $254 \times 6,104$ |



2. When multiplying 1,729 times 308, Clayton got a product of 53,253. Without calculating, does his product seem reasonable? Explain your thinking.

3. A publisher prints 1,912 copies of a book in each print run. If they print 305 runs, the manager wants to know about how many books will be printed. What is a reasonable estimate?

$$1,912 \times 305 =$$
$$2,000 \times 300 = 600,000$$

A reasonable estimate would be about 600,000 books.



Name _____

Date _____

Solve.

- 1. Jeffery bought 203 sheets of stickers. Each sheet has a dozen stickers. He gave away 907 stickers to his family and friends on Valentine’s Day. How many stickers does Jeffery have remaining?

$$\begin{array}{r}
 203 \\
 \times 12 \\
 \hline
 406 \\
 2030 \\
 \hline
 2436
 \end{array}$$

$$\begin{array}{r}
 2436 \\
 - 907 \\
 \hline
 1529 \text{ stickers remaining}
 \end{array}$$

- 2. During the 2011 season, a quarterback passed for 302 yards per game. He played in all 16 regular season games that year.

- a. For how many total yards did the quarterback pass?

- b. If he matches this passing total for each of the next 13 seasons, how many yards will he pass for in his career?

- 3. Bao saved \$179 a month. He saved \$145 less than Ada each month. How much would Ada save in three and a half years?

Bao 179

Ada 179 | 145 \$324

$$\begin{array}{r}
 324 \\
 \times 42 \\
 \hline
 648 \\
 + 12960 \\
 \hline
 13,608
 \end{array}$$

36 months
6 months
42 months



1 meter = 100 cm

4. Mrs. Williams is knitting a blanket for her newborn granddaughter. The blanket is 2.25 meters long and 1.8 meters wide. What is the area of the blanket? Write the answer in centimeters.

5. Use the chart to solve.

Soccer Field Dimensions

| | FIFA Regulation (in yards) | New York State High Schools (in yards) |
|----------------|-------------------------------|---|
| Minimum Length | 110 | 100 |
| Maximum Length | 120 | 120 |
| Minimum Width | 70 | 55 |
| Maximum Width | 80 | 80 |

- a. Write an expression to find the difference in the maximum area and minimum area of a NYS high school soccer field. Then, evaluate your expression.
- b. Would a field with a width of 75 yards and an area of 7,500 square yards be within FIFA regulation? Why or why not?

$$75 \times 100 = 7500 \text{ sq. yds.}$$

100 yards would be the length. This would be shorter than the minimum length of 110 yards.

- c. It costs \$26 to fertilize, water, mow, and maintain each square yard of a full size FIFA field (with maximum dimensions) before each game. How much will it cost to prepare the field for next week's match?



Name _____

Date _____

1. Estimate the product. Solve using an area model and the standard algorithm. Remember to express your products in standard form.

a. $22 \times 2.4 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

24 (tenths)

$\times 22$

b. $3.1 \times 33 \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

31 (tenths)

$\times 33$

2. Estimate. Then, use the standard algorithm to solve. Express your products in standard form.

a. $3.2 \times 47 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

32 (tenths)

$\times 47$

b. $3.2 \times 94 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

32 (tenths)

$\times 94$



c. $6.3 \times 44 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

d. $14.6 \times 17 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

e. $8.2 \times 34 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

f. $160.4 \times 17 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

3. Michelle multiplied 3.4×52 . She incorrectly wrote 1,768 as her product. Use words, numbers, and/or pictures to explain Michelle's mistake.
4. A wire is bent to form a square with a perimeter of 16.4 cm. How much wire would be needed to form 25 such squares? Express your answer in meters.



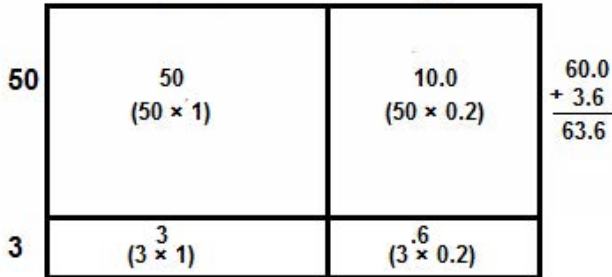
Name _____

Date _____

1. Estimate the product. Solve using an area model and the standard algorithm. Remember to express your products in standard form.

Area Model

a. $53 \times 1.2 \approx \frac{50}{1} \times \frac{1}{0.2} = \frac{50}{0.2}$



1 2
(tenths) × 5 3

b. $2.1 \times 82 \approx \underline{\quad} \times \underline{\quad} = \underline{\quad}$

2 1
(tenths) × 8 2

2. Estimate. Then, use the standard algorithm to solve. Express your products in standard form.

a. $4.2 \times 34 \approx \underline{\quad} \times \underline{\quad} = \underline{\quad}$

4 2
(tenths) × 3 4

b. $65 \times 5.8 \approx \underline{\quad} \times \underline{\quad} = \underline{\quad}$

5 8
(tenths) × 6 5



c. $3.3 \times 16 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

d. $15.6 \times 17 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

e. $73 \times 2.4 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

f. $193.5 \times 57 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

3. Mr. Jansen is building an ice rink in his backyard that will measure 8.4 meters by 22 meters. What is the area of the rink?

4. Rachel runs 3.2 miles each weekday and 1.5 miles each day of the weekend. How many miles will she have run in 6 weeks?



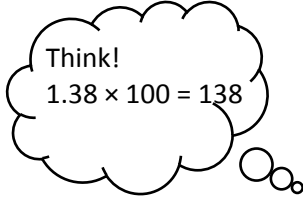
Name _____

Date _____

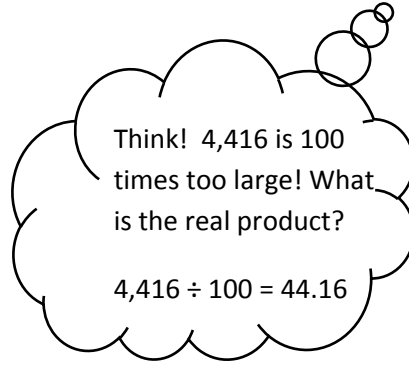
1. Estimate the product. Solve using the standard algorithm. Use the thought bubbles to show your thinking. (Draw an area model on a separate sheet if it helps you.)

a. $1.38 \times 32 \approx$ _____ \times _____ $=$ _____

$1.38 \times 32 =$ _____

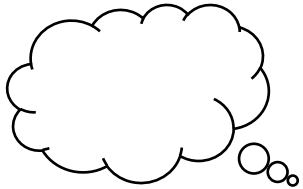


$$\begin{array}{r} 1.38 \\ \times 32 \\ \hline \end{array}$$

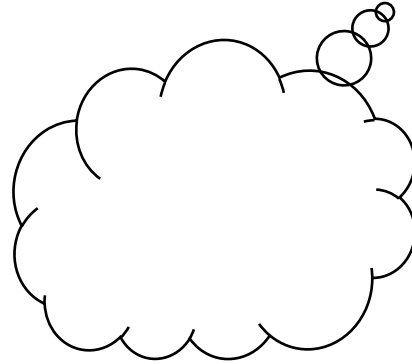


b. $3.55 \times 89 \approx$ _____ \times _____ $=$ _____

$3.55 \times 89 =$ _____



$$\begin{array}{r} 3.55 \\ \times 89 \\ \hline \end{array}$$





2. Solve using the standard algorithm.

a. 5.04×8

b. 147.83×67

c. 83.41×504

d. 0.56×432

3. Use the whole number product and place value reasoning to place the decimal point in the second product. Explain how you know.

a. If $98 \times 768 = 75,264$ then $98 \times 7.68 =$ _____

b. If $73 \times 1,563 = 114,099$ then $73 \times 15.63 =$ _____

c. If $46 \times 1,239 = 56,994$ then $46 \times 123.9 =$ _____



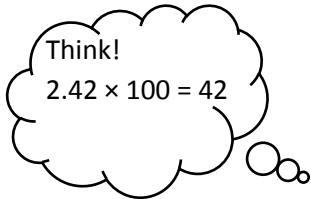
Name _____

Date _____

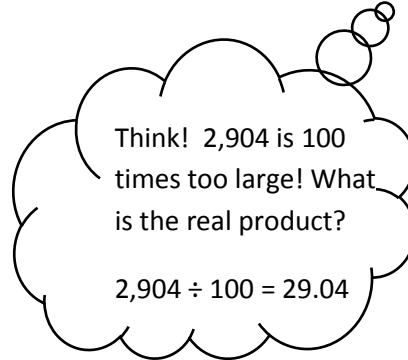
1. Estimate the product. Solve using the standard algorithm. Use the thought bubbles to show your thinking. (Draw an area model on a separate sheet if it helps you.)

a. $2.42 \times 12 \approx$ _____ \times _____ $=$ _____

$2.42 \times 12 =$ _____



$$\begin{array}{r} 2.42 \\ \times 12 \\ \hline \end{array}$$

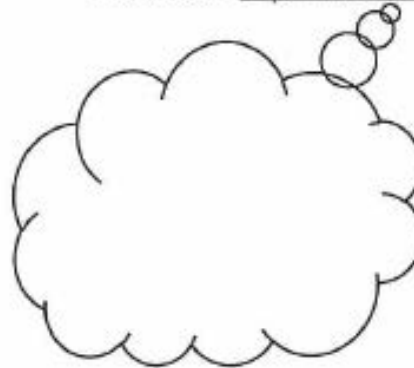


b. $4.13 \times 37 \approx$ 4 \times 40 $=$ 160

$4.13 \times 37 =$ 152.81



$$\begin{array}{r} 4.13 \\ \times 37 \\ \hline 2891 \\ +1239 \\ \hline 152.81 \end{array}$$



2. Solve using the standard algorithm.

a. 2.03×13

b. 53.16×34



c. 371.23×53

d. 1.57×432

3. Use the whole number product and place value reasoning to place the decimal point in the second product. Explain how you know.

a. If $36 \times 134 = 4,824$ then $36 \times 1.34 =$ _____

b. If $84 \times 2,674 = 224,616$ then $84 \times 26.74 =$ _____

c. $19 \times 3,211 = 61,009$ then $321.1 \times 19 =$ 6100.9

321.1 is the same as 3211 tenths. The product is $\frac{1}{10}$ as large.

4. A slice of pizza costs \$1.57. How much will 27 slices cost?

5. A spool of ribbon holds 6.75 meters. A craft club buys 21 spools.

a. What is the total cost if the ribbon sells for \$2 per meter?

b. If the club uses 76.54 meters to complete a project, how much ribbon will be left?



Name _____

Date _____

1. Estimate. Then, solve using the standard algorithm. You may draw an area model if it helps you.

a. $1.21 \times 14 \approx$ _____ \times _____ $=$ _____

$$\begin{array}{r} 1.21 \\ \times 14 \\ \hline \end{array}$$

b. $2.45 \times 305 \approx$ _____ \times _____ $=$ _____

$$\begin{array}{r} 2.45 \\ \times 305 \\ \hline \end{array}$$



2. Estimate. Then, solve using the standard algorithm. Use a separate sheet to draw the area model if it helps you.

a. $1.23 \times 12 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

b. $1.3 \times 26 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

c. $0.23 \times 14 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

d. $0.45 \times 26 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

e. $7.06 \times 28 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

f. $6.32 \times 223 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

g. $7.06 \times 208 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

h. $151.46 \times 555 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$



Name _____

Date _____

1. Estimate. Then, solve using the standard algorithm. You may draw an area model if it helps you.

a. $24 \times 2.31 \approx \underline{20} \times \underline{2} = \underline{40}$

$$\begin{array}{r} 2.31 \\ \times 24 \\ \hline \end{array}$$

b. $5.42 \times 305 \approx \underline{5} \times \underline{300} = \underline{1500}$

$$\begin{array}{r} 5.42 \\ \times 305 \\ \hline 2710 \\ 0000 \\ +1626 \\ \hline 1653.10 \end{array}$$

2. Estimate. Then, solve using the standard algorithm. Use a separate sheet to draw the area model if it helps you.

a. $1.23 \times 21 \approx \underline{\quad} \times \underline{\quad} = \underline{\quad}$

b. $3.2 \times 41 \approx \underline{\quad} \times \underline{\quad} = \underline{\quad}$

c. $0.32 \times 41 \approx \underline{\quad} \times \underline{\quad} = \underline{\quad}$

d. $0.54 \times 62 \approx \underline{\quad} \times \underline{\quad} = \underline{\quad}$



e. $6.09 \times 28 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

f. $6.83 \times 683 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

g. $6.09 \times 208 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

h. $171.76 \times 555 \approx \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

3. Eric’s goal is to walk 2.75 miles to and from the park every day for an entire year. If he meets his goal, how many miles will Eric walk?

| | | | |
|-----|----------|------------|------|
| 275 | · | hundredths | |
| x | 365 | · | days |
| | | | |
| | 1375 | | |
| | 16500 | | |
| | + 82500 | | |
| | | | |
| | 1,003.75 | miles | |

1 year = 365 days

4. Art galleries often price paintings by the square inch. If a painting measures 22.5 inches by 34 inches and costs \$4.15 per square inch, what is the selling price for the painting?

5. Gerry spends \$1.25 each day on lunch at school. On Fridays, she buys an extra snack for \$0.55. How much money will she spend in two weeks?



Name _____

Date _____

1. Solve. The first one is done for you.

| | |
|---|--|
| <p>a. Convert weeks to days.</p> <p>8 weeks = $8 \times (1 \text{ week})$</p> <p>= $8 \times (7 \text{ days})$</p> <p>= 56 days</p> | <p>b. Convert years to days.</p> <p>4 years = _____ \times (_____ year)</p> <p>= _____ \times (_____ days)</p> <p>= _____ days</p> |
| <p>c. Convert meters to centimeters.</p> <p>9.2 m = _____ \times (_____ m)</p> <p>= _____ \times (_____ cm)</p> <p>= _____ cm</p> | <p>d. Convert yards to feet.</p> <p>5.7 yards</p> |
| <p>e. Convert kilograms to grams.</p> <p>6.08 kg</p> | <p>f. Convert pounds to ounces.</p> <p>12.5 pounds</p> |



2. After solving, write a statement to express each conversion. The first one is done for you.

| | |
|---|--|
| <p>a. Convert the number of hours in a day to minutes.</p> $\begin{aligned} 24 \text{ hours} &= 24 \times (1 \text{ hour}) \\ &= 24 \times (60 \text{ minutes}) \\ &= 1,440 \text{ minutes} \end{aligned}$ <p>One day has 24 hours, which is the same as 1,440 minutes.</p> | <p>b. A small female gorilla weighs 68 kilograms. How much does she weigh in grams?</p> |
| <p>c. The height of a man is 1.7 meters. What is his height in centimeters?</p> | <p>d. The capacity of a syringe is 0.08 liters. Convert this to milliliters.</p> |
| <p>e. A coyote weighs 11.3 pounds. Convert the coyote's weight to ounces.</p> | <p>f. An alligator is 2.3 yards long. What is the length of the alligator in inches?</p> |



Name _____

Date _____

1. Solve. The first one is done for you.

| | |
|---|--|
| <p>a. Convert weeks to days.</p> <p>6 weeks = $6 \times (1 \text{ week})$</p> <p>= $6 \times (7 \text{ days})$</p> <p>= 42 days</p> | <p>b. Convert years to days.</p> <p>7 years = _____ \times (_____ year)</p> <p>= _____ \times (_____ days)</p> <p>= _____ days</p> |
| <p>c. Convert meters to centimeters.</p> <p>4.5 m = _____ \times (_____ m)</p> <p>= _____ \times (_____ cm)</p> <p>= _____ cm</p> | <p>d. Convert pounds to ounces.</p> <p>12.6 pounds</p> |
| <p>e. Convert kilograms to grams.</p> <p>3.09 kg</p> | <p>f. Convert yards to inches.</p> <p>245 yd</p> |

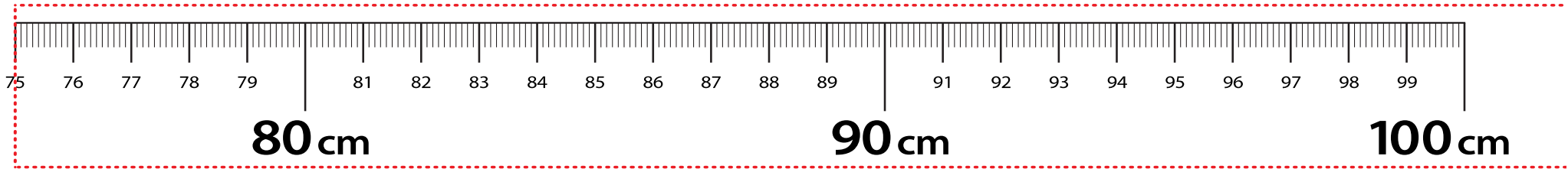
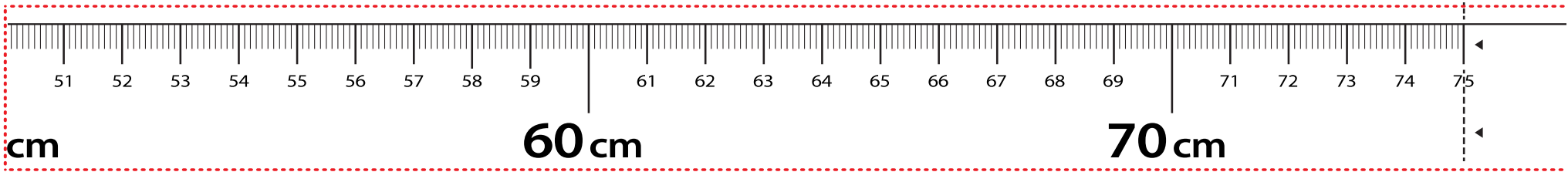
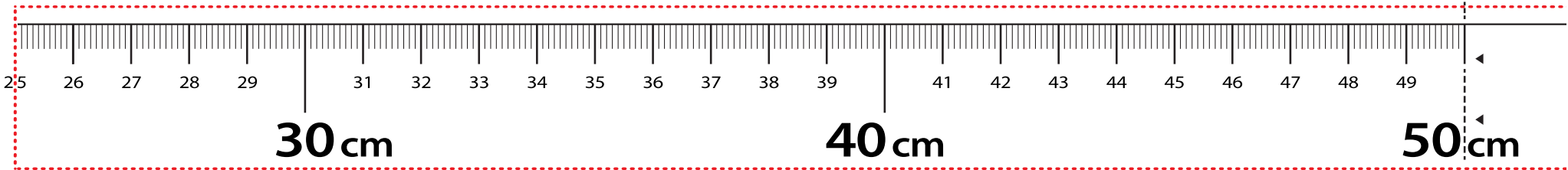
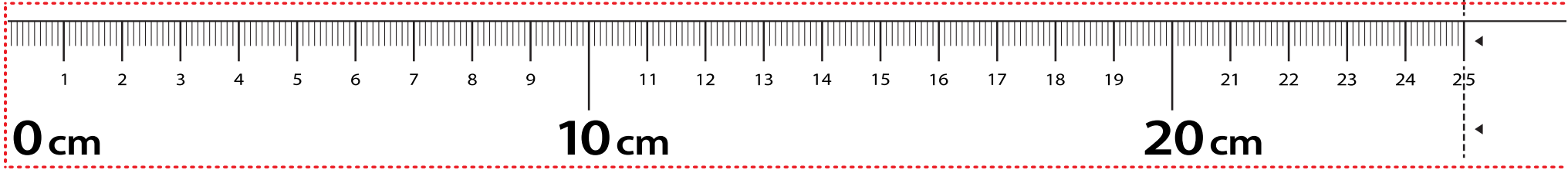


2. After solving, write a statement to express each conversion. The first one is done for you.

| | |
|---|---|
| <p>a. Convert the number of hours in a day to minutes.</p> $\begin{aligned} 24 \text{ hours} &= 24 \times (1 \text{ hour}) \\ &= 24 \times (60 \text{ minutes}) \\ &= 1,440 \text{ minutes} \end{aligned}$ <p>One day has 24 hours, which is the same as 1,440 minutes.</p> | <p>b. A newborn giraffe weighs about 65 kilograms. How much does it weigh in grams?</p> |
| <p>c. The average height of a female giraffe is 4.6 meters. What is her height in centimeters?</p> | <p>d. The capacity of a beaker is 0.1 liter. Convert this to milliliters.</p> |
| <p>e. A pig weighs 9.8 pounds. Convert the pig's weight to ounces.</p> | <p>f. A marker is 0.13 meters long. What is the length in millimeters?</p> |



DUVAL COUNTY
PUBLIC SCHOOLS



LEGEND - - - - CUT - - - - ALIGN EDGE

meter strip



DUVAL COUNTY
PUBLIC SCHOOLS



Name _____

Date _____

1. Solve. The first one is done for you.

| | |
|---|--|
| <p>a. Convert days to weeks.</p> $28 \text{ days} = 28 \times (1 \text{ day})$ $= 28 \times \left(\frac{1}{7} \text{ week}\right)$ $= \frac{28}{7} \text{ week}$ $= 4 \text{ weeks}$ | <p>b. Convert quarts to gallons.</p> $20 \text{ quarts} = \underline{\hspace{2cm}} \times (1 \text{ quart})$ $= \underline{\hspace{2cm}} \times \left(\frac{1}{4} \text{ gallon}\right)$ $= \underline{\hspace{2cm}} \text{ gallons}$ $= \underline{\hspace{2cm}} \text{ gallons}$ |
| <p>c. Convert centimeters to meters.</p> $920 \text{ cm} = \underline{\hspace{2cm}} \times (\underline{\hspace{2cm}} \text{ cm})$ $= \underline{\hspace{2cm}} \times (\underline{\hspace{2cm}} \text{ m})$ $= \underline{\hspace{2cm}} \text{ m}$ | <p>d. Convert meters to kilometers.</p> $1,578 \text{ m} = \underline{\hspace{2cm}} \times (\underline{\hspace{2cm}} \text{ m})$ $= \underline{\hspace{2cm}} \times (0.001 \text{ km})$ $= \underline{\hspace{2cm}} \text{ km}$ |
| <p>e. Convert grams to kilograms.</p> $6,080 \text{ g} =$ | <p>f. Convert milliliters to liters.</p> $509 \text{ mL} =$ |



2. After solving, write a statement to express each conversion. The first one is done for you.

| | |
|---|---|
| <p>a. The screen measures 24 inches. Convert 24 inches to feet.</p> $24 \text{ inches} = 24 \times (1 \text{ inch})$ $= 24 \times \left(\frac{1}{12} \text{ feet}\right)$ $= \frac{24}{12} \text{ feet}$ $= 2 \text{ feet}$ <p>The screen measures 24 inches or 2 feet.</p> | <p>b. A jug of syrup holds 12 cups. Convert 12 cups to pints.</p> |
| <p>c. The length of the diving board is 378 centimeters. What is its length in meters?</p> | <p>d. The capacity of a container is 1,478 milliliters. Convert this to liters.</p> |
| <p>e. A truck weighs 3,900,000 grams. Convert the truck's weight to kilograms.</p> | <p>f. The distance was 264,040 meters. Convert the distance to kilometers.</p> |



Name _____

Date _____

1. Solve. The first one is done for you.

| | |
|---|--|
| <p>a. Convert days to weeks.</p> $42 \text{ days} = 42 \times (1 \text{ day})$ $= 42 \times \left(\frac{1}{7} \text{ week}\right)$ $= \frac{42}{7} \text{ week}$ $= 6 \text{ weeks}$ | <p>b. Convert quarts to gallons.</p> $36 \text{ quarts} = \underline{\hspace{2cm}} \times (1 \text{ quart})$ $= \underline{\hspace{2cm}} \times \left(\frac{1}{4} \text{ gallon}\right)$ $= \underline{\hspace{2cm}} \text{ gallons}$ $= \underline{\hspace{2cm}} \text{ gallons}$ |
| <p>c. Convert centimeters to meters.</p> $760 \text{ cm} = \underline{\hspace{2cm}} \times (\underline{\hspace{2cm}} \text{ cm})$ $= \underline{\hspace{2cm}} \times (\underline{\hspace{2cm}} \text{ m})$ $= \underline{\hspace{2cm}} \text{ m}$ | <p>d. Convert meters to kilometers.</p> $2,485 \text{ m} = \underline{\hspace{2cm}} \times (\underline{\hspace{2cm}} \text{ m})$ $= \underline{\hspace{2cm}} \times (0.001 \text{ km})$ $= \underline{\hspace{2cm}} \text{ km}$ |
| <p>e. Convert grams to kilograms.</p> $3,090 \text{ g} =$ | <p>f. Convert milliliters to liters.</p> $205 \text{ mL} =$ |



2. After solving, write a statement to express each conversion. The first one is done for you.

| | |
|---|---|
| <p>a. The screen measures 36 inches. Convert 36 inches to feet.</p> $36 \text{ inches} = 36 \times (1 \text{ inch})$ $= 36 \times \left(\frac{1}{12} \text{ feet}\right)$ $= \frac{36}{12} \text{ feet}$ $= 3 \text{ feet}$ <p>The screen measures 36 inches or 3 feet.</p> | <p>b. A jug of juice holds 8 cups. Convert 8 cups to pints.</p> |
| <p>c. The length of the flower garden is 529 centimeters. What is its length in meters?</p> | <p>d. The capacity of a container is 2,060 milliliters. Convert this to liters.</p> |
| <p>e. A hippopotamus weighs 1,560,000 grams. Convert the hippopotamus' weight to kilograms.</p> | <p>f. The distance was 372,060 meters. Convert the distance to kilometers.</p> <p>K H T ^{meters} d c m</p> <p>start</p> <p>end left ← 3</p> <p>372,060</p> <p>372.060 km</p> |



Name _____

Date _____

Solve.

1. Tia cut a 4 meters 8 centimeters wire into 10 equal pieces. Marta cut a 540 centimeters wire into 9 equal pieces. How much longer is one of Marta's wires than one of Tia's?

Tia: $4\text{ m } 8\text{ cm} = 408\text{ cm}$
 $408\text{ cm} \div 10 = 40.8\text{ cm}$

$$\begin{array}{r} 60\text{ cm} \\ - 40.8\text{ cm} \\ \hline 19.2\text{ cm} \end{array}$$

Marta: $540\text{ cm} \div 9 = 60\text{ cm}$

One of Marta's wires is 19.2 cm longer than one of Tia's wires.

2. Jay needs 19 quarts more paint for the outside of his barn than for the inside. If he uses 107 quarts in all, how many gallons of paint will be used to paint the inside of the barn?



3. String A is 35 centimeters long. String B is 5 times as long as String A. Both are necessary to create a decorative bottle. Find the total length of string needed for 17 identical decorative bottles. Express your answer in meters.

4. A pineapple is 7 times as heavy as an orange. The pineapple also weighs 870 grams more than the orange.

a. What is the total weight in grams for the pineapple and orange?

b. Express the total weight of the pineapple and orange in kilograms.



Name _____

Date _____

1. Divide. Draw place value disks to show your thinking for (a) and (c). You may draw disks on your personal white board to solve the others if necessary.

| | |
|-------------------------|-----------------------|
| a. $500 \div 10$ | b. $360 \div 10$ |
| c. $12,000 \div 100$ | d. $450,000 \div 100$ |
| e. $700,000 \div 1,000$ | f. $530,000 \div 100$ |



2. Divide. The first one is done for you.

| | | |
|---|-----------------------|-------------------------|
| a. $12,000 \div 30$ $= 12,000 \div 10 \div 3$ $= 1,200 \div 3$ $= 400$ | b. $12,000 \div 300$ | c. $12,000 \div 3,000$ |
| d. $560,000 \div 70$ | e. $560,000 \div 700$ | f. $560,000 \div 7,000$ |
| g. $28,000 \div 40$ | h. $450,000 \div 500$ | i. $810,000 \div 9,000$ |



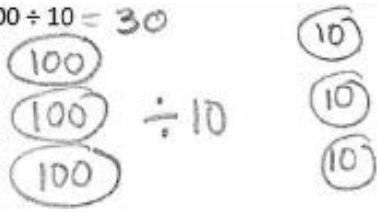
4. Two fifth graders solved $400,000$ divided by 800 . Carter said the answer is 500 , while Kim said the answer is $5,000$.
- a. Who has the correct answer? Explain your thinking.
- b. What if the problem is $4,000,000$ divided by $8,000$? What is the quotient?



Name _____

Date _____

1. Divide. Draw place value disks to show your thinking for (a) and (c). You may draw disks on your personal white board to solve the others if necessary.

| | |
|--|---|
| a. $300 \div 10 = 30$  | b. $450 \div 10$ $45 \text{ tens} \div 1 \text{ ten} = 45$ |
| c. $18,000 \div 100$ | d. $730,000 \div 100$ |
| e. $900,000 \div 1,000$ | f. $680,000 \div 1,000$ |

2. Divide. The first one is done for you.

| | | |
|---|-----------------------|-------------------------|
| a. $18,000 \div 20$ $= 18,000 \div 10 \div 2$ $= 1,800 \div 2$ $= 900$ | b. $18,000 \div 200$ | c. $18,000 \div 2,000$ |
| d. $420,000 \div 60$ | e. $420,000 \div 600$ | f. $420,000 \div 6,000$ |



| | | |
|---------------------|-----------------------|-------------------------|
| g. $24,000 \div 30$ | h. $560,000 \div 700$ | i. $450,000 \div 9,000$ |
|---------------------|-----------------------|-------------------------|

3. A stadium holds 50,000 people. The stadium is divided into 250 different seating sections. How many seats are in each section?

$$\begin{aligned} &50,000 \div 250 \\ &50,000 \div (25 \times 10) \\ &(50,000 \div 10) \div 25 \\ &5,000 \div 25 \\ &50 \text{ hundreds} \div 25 = 2 \text{ hundreds} = 200 \text{ seats} \\ &\qquad\qquad\qquad \text{in each section} \end{aligned}$$

4. Over the course of a year, a tractor-trailer commutes 160,000 miles across America.
- a. Assuming a trucker changes his tires every 40,000 miles, and that he starts with a brand new set of tires, how many sets of tires will he use in a year?

- b. If the trucker changes the oil every 10,000 miles and he starts the year with a fresh oil change, how many times will he change the oil in a year?



Name _____

Date _____

1. Estimate the quotient for the following problems. Round the divisor first.

| | | |
|---|---|---|
| a. $609 \div 21$ $\approx 600 \div 20$ $= 30$ | b. $913 \div 29$ \approx _____ \div _____ $=$ _____ | c. $826 \div 37$ \approx _____ \div _____ $=$ _____ |
| d. $141 \div 73$ \approx _____ \div _____ $=$ _____ | e. $241 \div 58$ \approx _____ \div _____ $=$ _____ | f. $482 \div 62$ \approx _____ \div _____ $=$ _____ |
| g. $656 \div 81$ \approx _____ \div _____ $=$ _____ | h. $799 \div 99$ \approx _____ \div _____ $=$ _____ | i. $635 \div 95$ \approx _____ \div _____ $=$ _____ |
| j. $311 \div 76$ \approx _____ \div _____ $=$ _____ | k. $648 \div 83$ \approx _____ \div _____ $=$ _____ | l. $143 \div 35$ \approx _____ \div _____ $=$ _____ |
| m. $525 \div 25$ \approx _____ \div _____ $=$ _____ | n. $552 \div 85$ \approx _____ \div _____ $=$ _____ | o. $667 \div 11$ \approx _____ \div _____ $=$ _____ |



Name _____

Date _____

1. Estimate the quotient for the following problems. The first one is done for you.

| | | |
|--|--|---|
| a. $821 \div 41$ $\approx 800 \div 40$ $= 20$ | b. $617 \div 23$ \approx _____ \div _____ $=$ _____ | c. $821 \div 39$ \approx 800 \div 40 $=$ 20 |
| d. $482 \div 52$ \approx _____ \div _____ $=$ _____ | e. $531 \div 48$ \approx _____ \div _____ $=$ _____ | f. $141 \div 73$ \approx _____ \div _____ $=$ _____ |
| g. $476 \div 81$ \approx _____ \div _____ $=$ _____ | h. $645 \div 69$ \approx 630 \div 70 $=$ 9 | i. $599 \div 99$ \approx _____ \div _____ $=$ _____ |
| j. $301 \div 26$ \approx _____ \div _____ $=$ _____ | k. $729 \div 81$ \approx _____ \div _____ $=$ _____ | l. $636 \div 25$ \approx _____ \div _____ $=$ _____ |
| m. $835 \div 89$ \approx _____ \div _____ $=$ _____ | n. $345 \div 72$ \approx _____ \div _____ $=$ _____ | o. $559 \div 11$ \approx _____ \div _____ $=$ _____ |



2. Mrs. Johnson spent \$611 buying lunch for 78 students. If all the lunches cost the same, about how much did she spend on each lunch?

3. An oil well produces 172 gallons of oil every day. A standard oil barrel holds 42 gallons of oil. About how many barrels of oil will the well produce in one day? Explain your thinking.

$$172 \div 42$$
$$\approx 160 \div 40 = 4 \text{ barrels}$$

The division rounded to the nearest multiple of 10 is 40. When you skip count by 40, the whole (172) is between 160 and 200. 172 is closer to 160.



Name _____

Date _____

1. Estimate the quotients for the following problems. The first one is done for you.

| | | |
|--|--|--|
| a. $5,738 \div 21$ $\approx 6,000 \div 20$ $= 300$ | b. $2,659 \div 28$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ | c. $9,155 \div 34$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ |
| d. $1,463 \div 53$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ | e. $2,525 \div 64$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ | f. $2,271 \div 72$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ |
| g. $4,901 \div 75$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ | h. $8,515 \div 81$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ | i. $8,515 \div 89$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ |
| j. $3,925 \div 68$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ | k. $5,124 \div 81$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ | l. $4,945 \div 93$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ |
| m. $5,397 \div 94$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ | n. $6,918 \div 86$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ | o. $2,806 \div 15$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ |



Name _____

Date _____

1. Estimate the quotients for the following problems. The first one is done for you.

| | | |
|--|--|--|
| a. $8,328 \div 41$ $\approx 8,000 \div 40$ $= 200$ | b. $2,109 \div 23$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ | c. $8,215 \div 38$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ |
| d. $3,861 \div 59$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ | e. $2,899 \div 66$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ | f. $5,576 \div 92$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ |
| g. $5,086 \div 73$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ | h. $8,432 \div 81$ $\approx \underline{8000} \div \underline{80}$ $= \underline{100}$ | i. $9,032 \div 89$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ |
| j. $2,759 \div 48$ $\approx \underline{3000} \div \underline{50}$ $= \underline{60}$ | k. $8,194 \div 91$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ | l. $4,368 \div 63$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ |
| m. $6,537 \div 74$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ | n. $4,998 \div 48$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ | o. $6,106 \div 25$ $\approx \underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$ $= \underline{\hspace{2cm}}$ |



2. 91 boxes of apples hold a total of 2,605 apples. Assuming each box has about the same number of apples, estimate the number of apples in each box.

3. A wild tiger can eat up to 55 pounds of meat in a day. About how many days would it take for a tiger to eat the following prey?

| Prey | Weight of Prey | Number of Days |
|----------------|----------------|----------------|
| Eland Antelope | 1,754 pounds | |
| Boar | 661 pounds | |
| Chital Deer | 183 pounds | |
| Water Buffalo | 2,322 pounds | |

$1754 \div 55$
 $1800 \div 60 = 30$

$2322 \div 55$
 $2400 \div 50$
48



Name _____

Date _____

1. Divide, and then check. The first problem is done for you.

a. $41 \div 30$

$$\begin{array}{r} 1 \text{ R } 11 \\ 30 \overline{) 41} \\ \underline{- 30} \\ 11 \end{array}$$

Check:

$$\begin{aligned} 30 \times 1 &= 30 \\ 30 + 11 &= 41 \end{aligned}$$

b. $80 \div 30$

c. $71 \div 50$

d. $270 \div 30$

e. $643 \div 80$

f. $215 \div 90$



2. Terry says the solution to $299 \div 40$ is 6 with a remainder of 59. His work is shown below. Explain Terry’s error in thinking, and then find the correct quotient using the space on the right.

$$\begin{array}{r} 6 \\ 40 \overline{) 299} \\ \underline{- 240} \\ 59 \end{array}$$

$$40 \overline{) 299}$$

3. A number divided by 80 has a quotient of 7 with 4 as a remainder. Find the number.

4. While swimming a 2 km race, Adam changes from breaststroke to butterfly every 200 m. How many times does he switch strokes during the first half of the race?



DUVAL COUNTY
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1. Divide, and then check using multiplication. The first one is done for you.

a. $71 \div 20$

Check:

$$\begin{array}{r}
 2 \quad 0 \quad \overline{) 71} \\
 \underline{- 60} \\
 11
 \end{array}$$

$20 \times 3 = 60$

$60 + 11 = 71$

b. $90 \div 40$

c. $95 \div 60$

d. $280 \div 30$

$$\approx 270 \div 30 = 9$$

$$\begin{array}{r}
 30 \overline{) 280} \\
 \underline{- 270} \\
 10
 \end{array}$$

check:

$30 \times 9 = 270$

$270 + 10 = 280$

e. $437 \div 60$

f. $346 \div 80$



Name _____ Date _____

1. Divide. Then, check with multiplication. The first one is done for you.

a. $65 \div 17$

b. $49 \div 21$

$$\begin{array}{r} 3 \text{ R } 14 \\ 17 \overline{) 65} \\ \underline{- 51} \\ 14 \end{array}$$

Check:

$$17 \times 3 = 51$$

$$51 + 14 = 65$$

c. $78 \div 39$

d. $84 \div 32$

e. $77 \div 25$

f. $68 \div 17$



2. When dividing 82 by 43, Linda estimated the quotient to be 2. Examine Linda’s work, and explain what she needs to do next. On the right, show how you would solve the problem.

Linda’s Estimation:

$$40 \overline{) 80} \begin{array}{r} 2 \\ \hline \end{array}$$

Linda’s Work:

$$43 \overline{) 82} \begin{array}{r} 2 \\ \hline 86 \\ - \\ \hline ? ? \end{array}$$

Your Work:

$$43 \overline{) 82}$$

3. A number divided by 43 has a quotient of 3 with 28 as a remainder. Find the number. Show your work.



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Name _____ Date _____

1. Divide. Then, check with multiplication. The first one is done for you.

a. $72 \div 31$

b. $89 \div 21$

$$\begin{array}{r}
 2 \text{ R } 10 \\
 31 \overline{) 72} \\
 \underline{- 62} \\
 10
 \end{array}$$

Check:

$31 \times 2 = 62$

$62 + 10 = 72$

c. $94 \div 33$

d. $67 \div 19$

e. $79 \div 25$

f. $83 \div 21$

$$\begin{array}{r}
 3 \text{ r } 4 \\
 25 \overline{) 79} \\
 \underline{75} \\
 4
 \end{array}
 \quad
 \begin{array}{l}
 25 \times 3 = 75 \\
 75 + 4 = 79
 \end{array}$$



2. A 91 square foot bathroom has a length of 13 feet. What is the width of the bathroom?

3. While preparing for a morning conference, Principal Corsetti is laying out 8 dozen bagels on square plates. Each plate can hold 14 bagels.

a. How many plates of bagels will Mr. Corsetti have?

$14 \overline{) 96} \begin{array}{r} 6 \\ -84 \\ \hline 12 \end{array} \text{ r } 12$ **7 plates**

8×12
 $(8 \times 10) + (8 \times 2)$
 $80 + 16 = 96$ **bagels**

b. How many more bagels would be needed to fill the final plate with bagels?



Name _____ Date _____

1. Divide. Then, check using multiplication. The first one is done for you.

a. $258 \div 47$

$$\begin{array}{r} 5 \text{ R } 23 \\ 47 \overline{) 258} \\ \underline{- 235} \\ 23 \end{array}$$

Check:

$$47 \times 5 = 235$$

$$235 + 23 = 258$$

b. $148 \div 67$

c. $591 \div 73$

d. $759 \div 94$



e. $653 \div 74$

f. $257 \div 36$

2. Generate and solve at least one more division problem with the same quotient and remainder as the one below. Explain your thought process.

$$\begin{array}{r} 8 \\ 58 \overline{) 475} \\ \underline{- 464} \\ 11 \end{array}$$





Name _____

Date _____

1. Divide. Then, check using multiplication. The first one is done for you.

a. $129 \div 21$

$$\begin{array}{r} 6 \text{ R } 3 \\ 21 \overline{) 129} \\ \underline{- 126} \\ 3 \end{array}$$

Check:

$$21 \times 6 = 126$$

$$126 + 3 = 129$$

b. $158 \div 37$

c. $261 \div 49$

d. $574 \div 82$

e. $464 \div 58$



f. $640 \div 79$

2. It takes Juwan exactly 35 minutes by car to get to his grandmother's. The nearest parking area is a 4-minute walk from her apartment. One week, he realized that he spent 5 hours and 12 minutes traveling to her apartment, and then back home. How many round trips did he make to visit his grandmother?

3. How many eighty-fours are in 672?

$$\begin{aligned} 672 &\div 84 \\ \approx 640 &\div 80 \\ 8 \end{aligned}$$

$$\begin{array}{r} 8 \\ 84 \overline{)672} \\ \underline{672} \\ 0 \end{array}$$

There are 8 groups of eighty-four in 672.



Name _____

Date _____

1. Divide. Then, check using multiplication. The first one is done for you.

a. $580 \div 17$

$$\begin{array}{r}
 34 \text{ R } 2 \\
 17 \overline{) 580} \\
 \underline{- 51} \\
 70 \\
 \underline{- 68} \\
 2
 \end{array}$$

Check:

$34 \times 17 = 578$

$578 + 2 = 580$

b. $730 \div 32$

c. $940 \div 28$

d. $553 \div 23$



e. $704 \div 46$

f. $614 \div 15$

2. Halle solved $664 \div 48$ below. She got a quotient of 13 with a remainder of 40. How could she use her work below to solve $659 \div 48$ without redoing the work? Explain your thinking.

$$\begin{array}{r} 13 \\ 48 \overline{) 664} \\ \underline{- 48} \\ 184 \\ \underline{- 144} \\ 40 \end{array}$$



Name _____

Date _____

1. Divide. Then, check using multiplication. The first one is done for you.

a. $487 \div 21$

$$\begin{array}{r} 23 \text{ R } 4 \\ 21 \overline{) 487} \\ \underline{- 42} \\ 67 \\ \underline{- 63} \\ 4 \end{array}$$

Check:

$$21 \times 23 = 483$$

$$483 + 4 = 487$$

b. $485 \div 15$

c. $700 \div 21$

d. $399 \div 31$

e. $820 \div 42$



f. $908 \div 56$

2. When dividing 878 by 31, a student finds a quotient of 28 with a remainder of 11. Check the student's work, and use the check to find the error in the solution.

3. A baker was going to arrange 432 desserts into rows of 28. The baker divides 432 by 28 and gets a quotient of 15 with remainder 12. Explain what the quotient and remainder represent.



Name _____

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1. Divide. Then, check using multiplication.

a. $4,859 \div 23$

b. $4,368 \div 52$

c. $7,242 \div 34$

d. $3,164 \div 45$

e. $9,152 \div 29$

f. $4,424 \div 63$



Name _____

Date _____

1. Divide. Then, check using multiplication.

a. $9,962 \div 41$

b. $1,495 \div 45$

c. $6,691 \div 28$

d. $2,625 \div 32$

e. $2,409 \div 19$

f. $5,821 \div 62$

Check:

| | |
|---|--|
| $\begin{array}{r} 19 \overline{) 2,409} \\ \underline{-19} \\ 50 \\ \underline{-38} \\ 129 \\ \underline{-114} \\ 15 \end{array}$ | $\begin{array}{r} 126 \\ \times 19 \\ \hline 1134 \\ +1260 \\ \hline 2394 \\ + 15 \\ \hline 2,409 \end{array}$ |
|---|--|



Name _____

Date _____

1. Divide. Show the division in the right-hand column in two steps. The first two have been done for you.

a. $1.2 \div 6 = 0.2$

b. $1.2 \div 60 = (1.2 \div 6) \div 10 = 0.2 \div 10 = 0.02$

c. $2.4 \div 4 =$ _____

d. $2.4 \div 40 =$ _____

e. $14.7 \div 7 =$ _____

f. $14.7 \div 70 =$ _____

g. $0.34 \div 2 =$ _____

h. $3.4 \div 20 =$ _____

i. $0.45 \div 9 =$ _____

j. $0.45 \div 90 =$ _____

k. $3.45 \div 3 =$ _____

l. $34.5 \div 300 =$ _____



2. Use place value reasoning and the first quotient to compute the second quotient. Explain your thinking.

a. $46.5 \div 5 = 9.3$

$46.5 \div 50 =$ _____

b. $0.51 \div 3 = 0.17$

$0.51 \div 30 =$ _____

c. $29.4 \div 70 = 0.42$

$29.4 \div 7 =$ _____

d. $13.6 \div 40 = 0.34$

$13.6 \div 4 =$ _____



Name _____

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1. Divide. Show every other division sentence in two steps. The first two have been done for you.

a. $1.8 \div 6 = 0.3$

b. $1.8 \div 60 = (1.8 \div 6) \div 10 = 0.3 \div 10 = 0.03$

c. $2.4 \div 8 =$ _____

d. $2.4 \div 80 =$ _____

e. $14.6 \div 2 =$ _____

f. $14.6 \div 20 =$ _____

g. $0.8 \div 4 =$ _____

h. $80 \div 400 = 0.20$
 $(80 \div 4) \div 100$ or $(80 \div 100) \div 4$
 $20 \div 100$ $.80 \div 4$

i. $0.56 \div 7 =$ _____

j. $0.56 \div 70 =$ _____

k. $9.45 \div 9 = 1.05$
$$\begin{array}{r} 1.05 \\ 9 \overline{) 9.45} \\ \underline{-9} \\ 4 \\ \underline{0} \\ 45 \\ \underline{45} \\ 0 \end{array}$$

l. $9.45 \div 900 = 0.0105$
 $(9.45 \div 9) \div 100$
 $1.05 \div 100$



2. Use place value reasoning and the first quotient to compute the second quotient. Use place value to explain how you placed the decimal point.

a. $65.6 \div 80 = 0.82$

$65.6 \div 8 =$ _____

b. $2.5 \div 50 = 0.05$

$2.5 \div 5 =$ _____

c. $19.2 \div 40 = 0.48$

$19.2 \div 4 =$ _____

d. $39.6 \div 6 = 6.6$

$39.6 \div 60 =$ _____

3. Chris rode his bike along the same route every day for 60 days. He logged that he had gone exactly 127.8 miles.

a. How many miles did he bike each day? Show your work to explain how you know.

$127.8 \div 60 \text{ days}$
 $(127.8 \div 10) \div 6$
 $12.78 \div 6 =$ **2.13 miles per day**

b. How many miles did he bike over the course of two weeks?

2 weeks = 14 days

He rode his bike 29.82 miles in 2 weeks.

4. 2.1 liters of coffee were equally distributed to 30 cups. How many milliliters of coffee were in each cup?



Name _____

Date _____

1. Estimate the quotients.

a. $3.24 \div 82 \approx$

b. $361.2 \div 61 \approx$

c. $7.15 \div 31 \approx$

d. $85.2 \div 31 \approx$

e. $27.97 \div 28 \approx$

2. Estimate the quotient in (a). Use your estimated quotient to estimate (b) and (c).

a. $7.16 \div 36 \approx$

b. $716 \div 36 \approx$

c. $71.6 \div 36 \approx$



Name _____

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1. Estimate the quotients.

a. $3.53 \div 51 \approx 3.5 \div 50 = (3.5 \div 5) \div 10 = 0.7 \div 10 = 0.07$

b. $24.2 \div 42 \approx$

c. $9.13 \div 23 \approx$

d. $79.2 \div 39 \approx 80 \div 40 = (80 \div 4) \div 10 = 20 \div 10 = 2$

e. $7.19 \div 58 \approx$

2. Estimate the quotient in (a). Use your estimated quotient to estimate (b) and (c).

a. $9.13 \div 42 \approx$

b. $913 \div 42 \approx$

c. $91.3 \div 42 \approx$



e. $249.6 \div 52$

f. $24.96 \div 52$

g. $300.9 \div 59$

h. $30.09 \div 59$

3. The weight of 72 identical marbles is 183.6 grams. What is the weight of each marble? Explain how you know the decimal point of your quotient is placed reasonably.



4. Cameron wants to measure the length of his classroom using his foot as a length unit. His teacher tells him the length of the classroom is 23 meters. Cameron steps across the classroom heel to toe and finds that it takes him 92 steps. How long is Cameron's foot in meters?
5. A blue rope is three times as long as a red rope. A green rope is 5 times as long as the blue rope. If the total length of the three ropes is 508.25 meters, what is the length of the blue rope?



DUVAL COUNTY PUBLIC SCHOOLS

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- 1. Create two whole number division problems that have a quotient of 9 and a remainder of 5. Justify which is greater using decimal division.

$$\begin{array}{r} 9.5 \\ 10 \overline{) 95.0} \\ \underline{-90} \\ 50 \\ \underline{-50} \\ 0 \end{array}$$

$$\begin{array}{r} 92083 \\ 24 \overline{) 2210000} \\ \underline{-216} \\ 50 \\ \underline{-48} \\ 20 \\ \underline{-20} \\ 0 \\ \underline{-192} \\ 80 \\ \underline{-72} \\ 8 \end{array}$$

$$\begin{array}{r} 24 \\ \times 9 \\ \hline 216 \\ + 5 \\ \hline 221 \end{array}$$

- 2. Divide. Then, check your work with multiplication.

a. $75.9 \div 22$

b. $97.28 \div 19$

c. $77.14 \div 38$

d. $12.18 \div 29$

- 3. Divide.

a. $97.58 \div 3$

b. $55.35 \div 45$



4. Use the equations on the left to solve the problems on the right. Explain how you decided where to place the decimal in the quotient.

a. $520.3 \div 43 = 12.1$

$52.03 \div 43 = \underline{\hspace{2cm}}$

b. $19.08 \div 36 = 0.53$

$190.8 \div 36 = \underline{\hspace{2cm}}$

5. You can look up information on the world's tallest buildings at

<http://www.infoplease.com/ipa/A0001338.html>.

a. The Aon Centre in Chicago, Illinois, is one of the world's tallest buildings. Built in 1973, it is 1,136 feet high and has 80 stories. If each story is of equal height, how tall is each story?

b. Burj al Arab Hotel, another one of the world's tallest buildings, was finished in 1999. Located in Dubai, it is 1,053 feet high with 60 stories. If each floor is the same height, how much taller or shorter is each floor than the height of the floors in the Aon Center?



Name _____

Date _____

1. Divide. Check your work with multiplication.

a. $5.6 \div 16$

b. $21 \div 14$

c. $24 \div 48$

d. $36 \div 24$

e. $81 \div 54$

f. $15.6 \div 15$

g. $5.4 \div 15$

h. $16.12 \div 52$

i. $2.8 \div 16$



2. 30.48 kg of beef was placed into 24 packages of equal weight. What is the weight of one package of beef?

3. What is the length of a rectangle whose width is 17 inches and whose area is 582.25 in^2 ?



Name _____

Date _____

1. Divide. Check your work with multiplication.

a. $7 \div 28$

b. $51 \div 25$

c. $6.5 \div 13$

Handwritten work for $23.80 \div 28$:

$$\begin{array}{r} 28 \overline{) 23.80} \\ \underline{-56} \\ 140 \\ \underline{-140} \\ 0 \end{array}$$

Check:

$$\begin{array}{r} .8571 \\ \times 28 \\ \hline 700 \\ 1400 \\ \hline 23.80 \end{array}$$

d. $132.16 \div 16$

e. $561.68 \div 28$

f. $604.8 \div 36$

2. In a science class, students water a plant with the same amount of water each day for 28 consecutive days. If the students use a total of 23.8 liters of water over the 28 days, how many liters of water did they use each day? How many milliliters did they use each day?



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3. A seamstress has a piece of cloth that is 3 yards long. She cuts it into shorter lengths of 16 inches each. How many of the shorter pieces can she cut?

1 yd = 36 in
3 yd = 108 in

$$\begin{array}{r} 6.75 \\ 16 \overline{) 108.00} \\ \underline{-96} \\ 120 \\ \underline{-112} \\ 80 \\ \underline{-80} \\ 0 \end{array}$$

4. Jenny filled 12 pitchers with an equal amount of lemonade in each. The total amount of lemonade in the 12 pitchers was 41.4 liters. How many liters of lemonade would be in 7 pitchers?



3. Jim Nasium is building a tree house for his two daughters. He cuts 12 pieces of wood from a board that is 128 inches long. He cuts 5 pieces that measure 15.75 inches each and 7 pieces evenly cut from what is left. Jim calculates that, due to the width of his cutting blade, he will lose a total of 2 inches of wood after making all of the cuts. What is the length of each of the seven pieces?
4. A load of bricks is twice as heavy as a load of sticks. The total weight of 4 loads of bricks and 4 loads of sticks is 771 kilograms. What is the total weight of 1 load of bricks and 3 loads of sticks?



Name _____

Date _____

1. Mr. Rice needs to replace the 166.25 ft of edging on the flower beds in his backyard. The edging is sold in lengths of 19 ft each. How many lengths of edging will Mr. Rice need to purchase?

$$\begin{array}{r} 8.75 \\ 19 \overline{)166.25} \\ \underline{-152} \downarrow \\ 142 \downarrow \\ \underline{-133} \downarrow \\ 95 \downarrow \\ \underline{-95} \\ 0 \end{array}$$

Mr. Rice will have to buy 9 lengths of edging.

2. Olivia is making granola bars. She will use 17.9 ounces of pistachios, 12.6 ounces of almonds, 12.5 ounces of walnuts, and 12.5 ounces of cashews. This amount makes 25 bars. How many ounces of nuts are in each granola bar?

3. Adam has 16.45 kg of flour, and he uses 6.4 kg to make hot cross buns. The remaining flour is exactly enough to make 15 batches of scones. How much flour, in kg, will be in each batch of scones?



Name _____

Date _____

Solve.

1. Lamar has 1,354.5 kilograms of potatoes to deliver equally to 18 stores. 12 of the stores are in the Bronx. How many kilograms of potatoes will be delivered to stores in the Bronx?

2. Valerie uses 12 fluid oz of detergent each week for her laundry. If there are 75 fluid oz of detergent in the bottle, in how many weeks will she need to buy a new bottle of detergent? Explain how you know.



Name _____

Date _____

Solve.

- Michelle wants to save \$150 for a trip to the Six Flags amusement park. If she saves \$12 each week, how many weeks will it take her to save enough money for the trip?

$$\begin{array}{r}
 12 \overline{)150.0} \\
 \underline{-144} \\
 60 \\
 \underline{60} \\
 0
 \end{array}$$

It will take Michelle 13 weeks to have enough money for the trip.

- Karen works for 85 hours throughout a two week period. She earns \$1,891.25 throughout this period. How much does Karen earn for 8 hours of work?

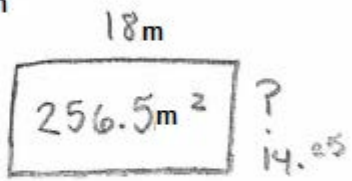
- The area of a rectangle is 256.5 m^2 . If the length is 18 m, what is the perimeter of the rectangle?

$$\begin{array}{r}
 18 \overline{)256.50} \\
 \underline{-18} \\
 76 \\
 \underline{-72} \\
 45 \\
 \underline{-36} \\
 90 \\
 \underline{-90} \\
 0
 \end{array}$$

$$\begin{array}{r}
 14.25 \\
 \times 2 \\
 \hline
 28.50
 \end{array}$$

$$\begin{array}{r}
 18 \\
 \times 2 \\
 \hline
 36
 \end{array}$$

$$\begin{array}{r}
 28.50 \\
 +36.00 \\
 \hline
 64.50\text{m}
 \end{array}$$



The perimeter of the rectangle is 64.5 meters.



4. Tyler baked 702 cookies. He sold them in boxes of 18. After selling all of the boxes of cookies for the same amount each, he earned \$136.50. What was the cost of one box of cookies?

5. A park is 4 times as long as it is wide. If the distance around the park is 12.5 kilometers, what is the area of the park?

1.25 km

$12.5 \div 10 = 1.25 \text{ km}$

1.25
 $\times 4$

 5.00

1.25
 $\times 5$

 6.25 km^2

$W = 1.25 \text{ km}$
 $L = 5 \text{ km}$