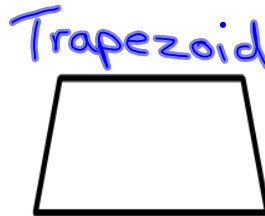
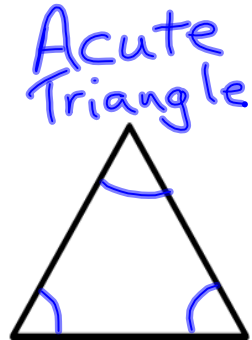
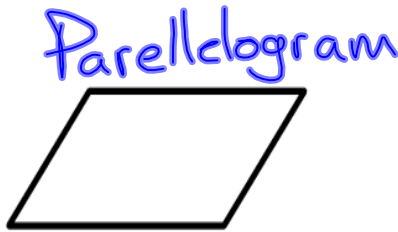
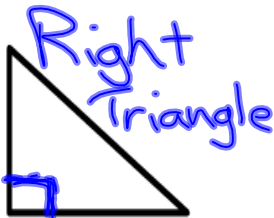


Lesson 1: The Area of Parallelograms Through Rectangle Facts

Classwork

Opening Exercise

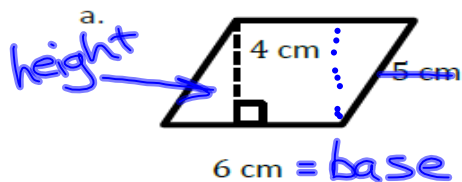
Name each shape.



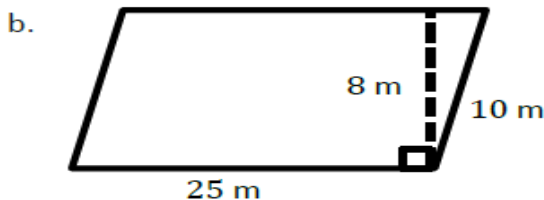
Mar 28-6:32 AM

Exercises

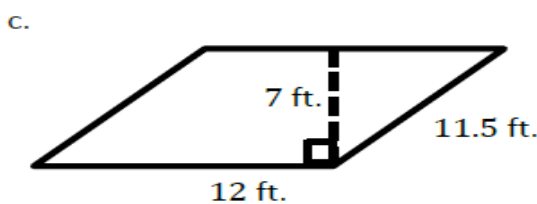
1. Find the area of each parallelogram below. Each figure is not drawn to scale.



→ Area = base · height
 $A = b \cdot h$
 $A = 6 \cdot 4$
 $A = 24 \text{ cm}^2$



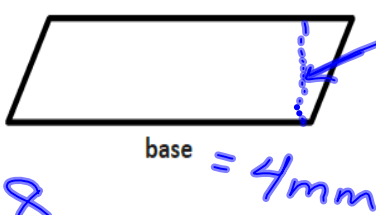
$A = b \cdot h$
 $A = 25 \cdot 8$
 $A = 200 \text{ m}^2$



Mar 28-6:35 AM

2. Draw and label the height of each parallelogram. Use the correct mathematical tool to measure the base and the height in inches, and calculate the area of each parallelogram.

a.



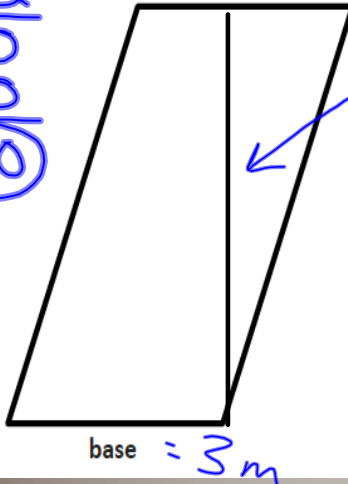
$h = 1.2\text{mm}$

$A = bh$

$A = 4 \cdot 1.2$

$A = 4.8\text{mm}^2$

$$\begin{array}{r} 2 \\ 4.8 \\ \times 3.0 \\ \hline 14.40 \end{array}$$



$h = 4.8\text{mm}$

$A = bh$

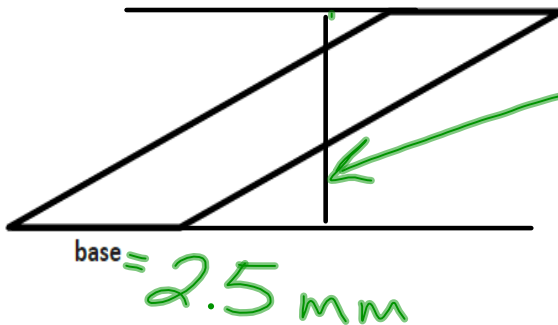
$A = 3 \cdot 4.8$

$A = 14.4\text{mm}^2$

$$\begin{array}{r} 2 \\ 4.8 \\ \times 3 \\ \hline 14.4 \end{array}$$

Mar 28-6:36 AM

c.



$h = 2.4\text{mm}$

$A = b \cdot h$

$A = 2.4 \cdot 2.5$

$A = 6\text{mm}^2$

3. If the area of a parallelogram is $\frac{35}{42}\text{cm}^2$ and the height is $\frac{1}{7}\text{cm}$, write an equation that relates the height, base, and area of the parallelogram. Solve the equation.

$$\frac{35}{642} \times \frac{1}{1}$$

$$\frac{35}{6} = 6 \sqrt{\frac{35}{30}}$$

$$\frac{35}{42} = b \cdot \frac{1}{7}$$

$$\frac{35}{42} \div \frac{1}{7} = b \cdot \frac{1}{7} \div \frac{1}{7}$$

$A = bh$

$\frac{35}{42} = b \cdot \frac{1}{7}$

$\frac{5}{6} = b$

Mar 28-6:36 AM

Lesson Summary

The formula to calculate the area of a parallelogram is $A = bh$, where b represents the base and h represents the height of the parallelogram.

The height of a parallelogram is the line segment perpendicular to the base.

Problem Set

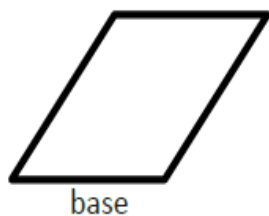
Draw and label the height for each parallelogram.

1.



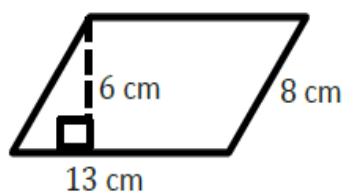
Mar 28-6:37 AM

2.



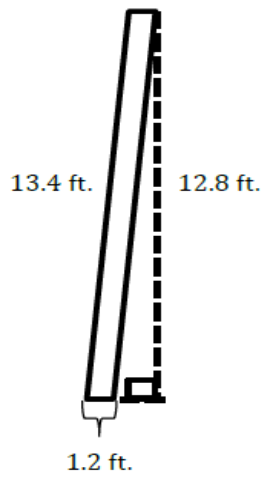
Calculate the area of each parallelogram. The figures are not drawn to scale.

3.

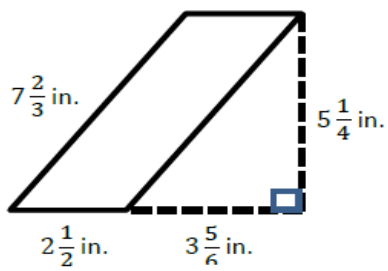


Mar 28-6:38 AM

4.

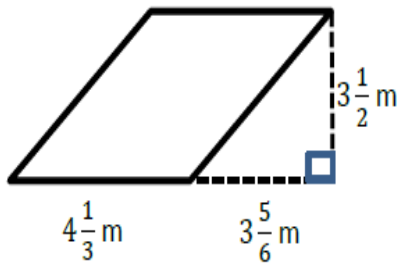


5.



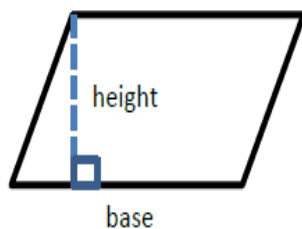
Mar 28-6:38 AM

6.

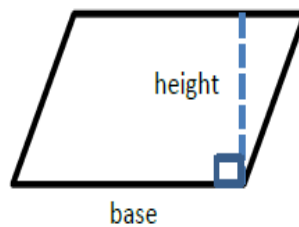


7. Brittany and Sid were both asked to draw the height of a parallelogram. Their answers are below.

Brittany



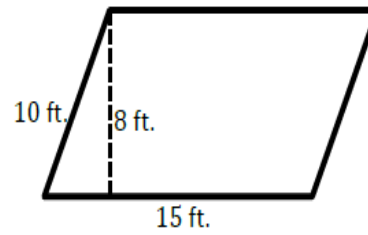
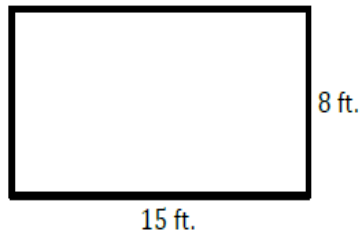
Sid



Are both Brittany and Sid correct? If not, who is correct? Explain your answer.

Mar 28-6:39 AM

8. Do the rectangle and parallelogram below have the same area? Explain why or why not.



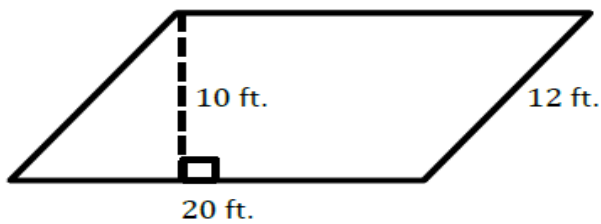
9. A parallelogram has an area of 20.3 square centimeters and a base of 2.5 centimeters. Write an equation that relates the area to the base and height, h . Solve the equation to determine the length of the height.

Mar 28-6:39 AM

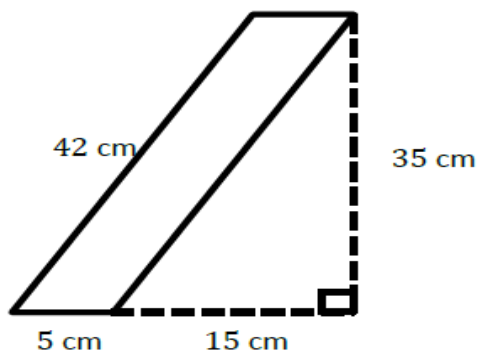
Exit Ticket

Calculate the area of each parallelogram. The figures are not drawn to scale.

1.

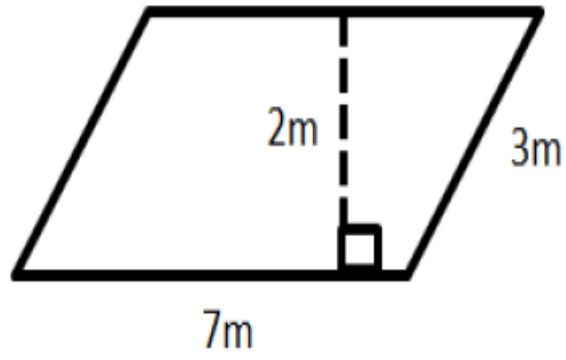


2.



Mar 28-6:40 AM

3.



Mar 28-6:40 AM