

Math 6 Plus Unit 8

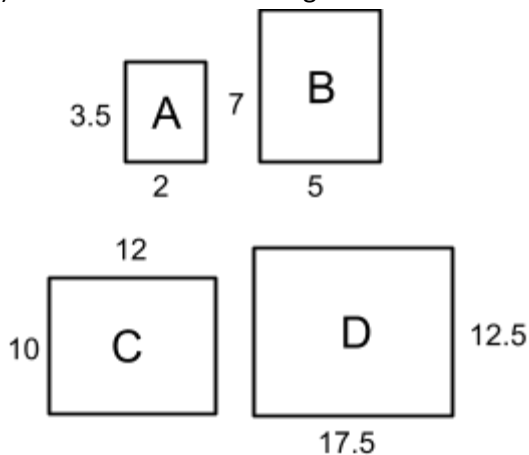
Introducing Proportional Relationships

Extra Practice Problems

1) A builder made a scale drawing of a rectangular room. The drawing has a length of $12\frac{1}{2}$ centimeters and a width of $7\frac{3}{4}$ centimeters. The actual room will have a length of $56\frac{1}{4}$ meters. What will be the area of the actual room?

2) An architect is making a scale model of a building that she is designing. This building will be 231 feet tall. On the model, 5 centimeters will represent 10 feet. How many centimeters tall will the model be?

3) Determine which rectangles are similar.



4) A brownie recipe says that $\frac{1}{2}$ cup of flour is needed for 12 brownies. Complete the table.

Amount of Flour (Cups)	Number of Brownies
	4
$\frac{1}{2}$	12
	24
$2\frac{1}{2}$	

A) What is the unit rate for number of brownies in one cup of flour?

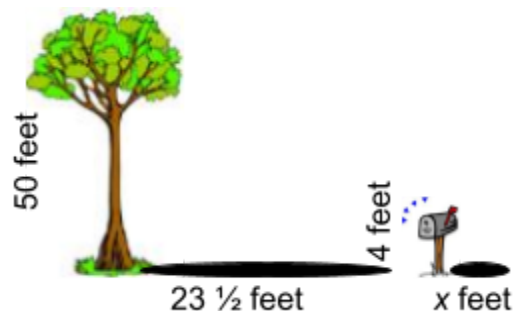
B) What is the unit rate for the amount of flour for one brownie? Write the solution as a fraction.

5) When golden eagles dive, they can achieve a speed of 150 miles per hour. Which of these equations represents the amount of time, t , in minutes that it takes golden eagle to dive the distance, d , in miles?

A. $t = \frac{2d}{5}$ B. $t = d + 2.5$

C. $t = 150d$ D. $d = 150t$

6) Find the length of the shadow of the mailbox.



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7) Each table represents a proportional relationship. For each, find the constant of proportionality, k , and write an equation that represents the relationship. Write k as a simplified proper or improper fraction and use the given variables.

d	f
1	$\frac{3}{5}$
7	$4\frac{1}{5}$
30	18

Equation:

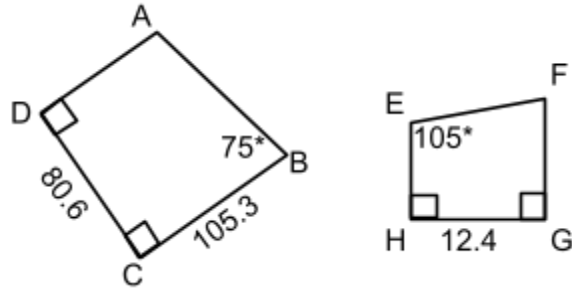
$f =$ _____

f	d
$\frac{3}{5}$	1
$4\frac{1}{5}$	7
18	30

Equation:

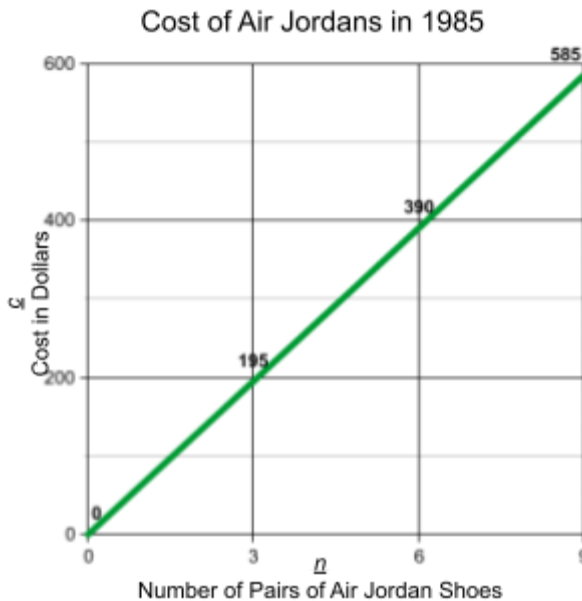
$d =$ _____

8) Figures $ABCD$ and $EFGH$ are similar. Determine the measure of $\angle A$ and the length of $\overline{FG}$.

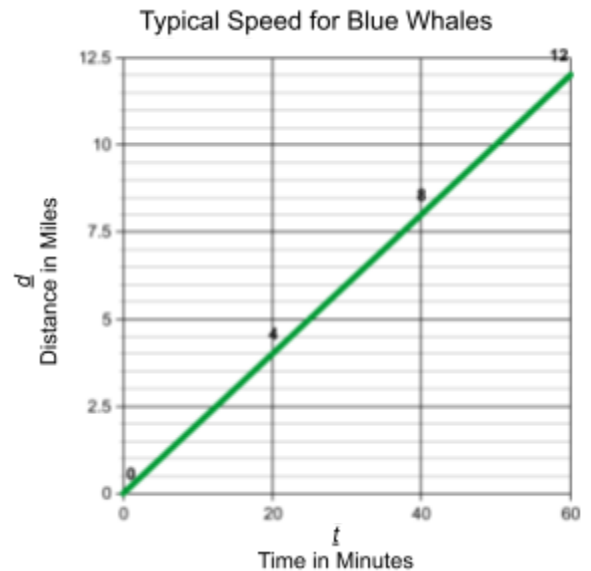


$\angle A =$ _____, $\overline{FG} =$ _____

9) How much did one pair of Air Jordan shoes cost when they debuted in 1985?



10) Select **all** true statements based on the graph.



- A. In 1 min, the blue whale will travel 0.2 miles.
- B. In 30 seconds, the blue whale will travel 0.1 miles.
- C. In 10 minutes, the blue whale will travel 2.5 miles.
- D. To travel 10 miles, it will take the blue whale 50 minutes.
- E. To travel 25 miles, it will take the blue whale 125 minutes.

#9 and #10 Graphs created using <https://nces.ed.gov/nceskids/createagraph/>.