

Stick Quiz: in journals

1. $2(4x + 1) - 2x = 9x + 1$

2. $3k + 5 = 17$

3. $\frac{-a}{3} - 4 = 5$

1. $2(4x + 1) - 2x = 9x + 1$

$$\begin{array}{r} 8x + 2 - 2x = 9x + 1 \\ \hline 6x + 2 = 9x + 1 \\ -6x \quad -6x \quad \downarrow \\ \hline 2 = 3x + 1 \\ -1 \quad -1 \\ \hline 1 = 3x \\ \frac{1}{3} = \frac{3x}{3} \end{array}$$

$x = \frac{1}{3}$ ✓

$$\begin{array}{r} 2(4(\frac{1}{3}) + 1) - 2(\frac{1}{3}) \\ 4 \\ 9(\frac{1}{3}) + 1 \\ 4 \end{array}$$

2. $3k + 5 = 17$

$$\begin{array}{r} 3k + 5 = 17 \\ -5 \quad -5 \\ \hline 3k = 12 \\ \frac{3k}{3} = \frac{12}{3} \end{array}$$

$k = 4$ ✓

3. $\frac{-a}{3} - 4 = 5$

$$\begin{array}{r} \frac{-a}{3} - 4 = 5 \\ +4 \quad +4 \\ \hline \frac{-a}{3} = 9 \cdot 3 \\ -a = 27 \\ -1 \quad -1 \end{array}$$

$a = -27$ ✓

$$\begin{array}{r} -(-27) - 4 = 5 \\ \frac{27}{3} - 4 = 5 \\ 9 - 4 = 5 \\ \checkmark \end{array}$$

$a = -27$

Find the value of h so that the figures have the same area.

Area of a Triangle = $\frac{1}{2}bh$

$$A = \frac{1}{2} \cdot b \cdot h$$

$$\frac{1}{2} \cdot 6 \cdot h = \frac{1}{2} \cdot 10 \cdot (h-2)$$

$$3h = 5(h-2)$$

$$3h = 5h - 10$$

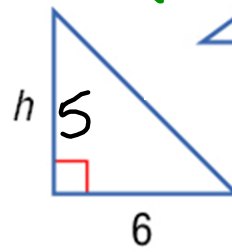
$$-5h \quad | \quad -5h$$

$$\hline -2h = -10$$

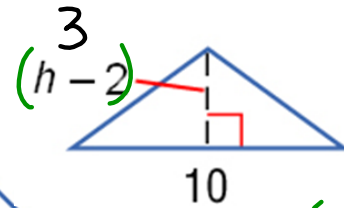
$$\frac{-2h}{-2}$$

$$\frac{-10}{-2}$$

$$h = 5$$

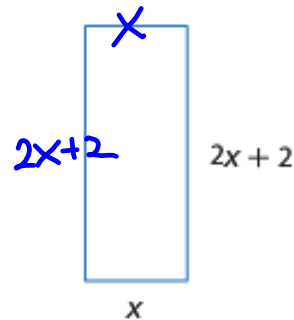
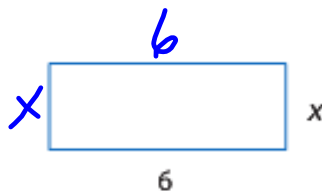


$$\frac{1}{2} \cdot 6 \cdot h$$



$$\frac{1}{2} \cdot 10 \cdot (h-2)$$

Find the value of x so that the figures have the same perimeter.



=

perimeter = add up sides

Area: Multiplication Formula

Triangle

$$A = \frac{1}{2}bh$$

Square/Rectangle

$$A = bh$$

Pg 100#23 *lesser*

x
1st Even#

$(x+2)$
next one

$-4, -2$

$$4x = 2(x+2) - 12$$

$$x = -4$$

$$4x = 2x + 4 - 12$$

$$4x = 2x - 8$$

$$\frac{2x}{2} = \frac{-8}{2}$$

Homework 2.4

2.4 WS Left Side

All word problems!

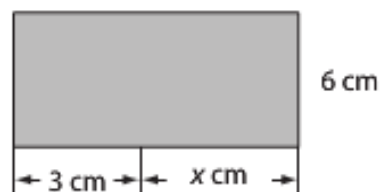
Stick Quiz - New Stick Quiz form!

10/18/2013

Target 2-3

Send up one person to get forms for your group

1. Find the value of x so that the figures have the same area.



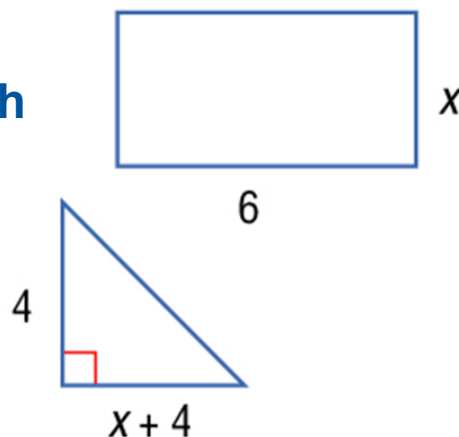
2. Solve:

$$8 - (5 - 6x) = 3(1 + 2x)$$

Find the value of x so that the figures have the same area.

Area of a Triangle = $\frac{1}{2}bh$

Area of a Rectangle = bh



2-6 Ratios and Proportions

I can... interpret and use a proportion to solve a problem.

$$\frac{4}{10} = \frac{x}{20}$$

$$\frac{2}{5} = \frac{x}{10}$$

$$\frac{2.4}{1}$$

Ratio: The comparison of two things by division.

2:3

 $\frac{2}{3}$

2 to 3

Proportion: Two Ratios that have been set equal to each other.

Proportion is an equation that should be solved.

$$\frac{8}{20} = \frac{2}{5}$$

$$\frac{x}{10} = \frac{1}{2}$$

1. Determine whether $\frac{7}{8}$ and $\frac{49}{56}$ are equivalent ratios. Justify your answer.

$$\frac{7 \cdot 7}{8 \cdot 7} = \frac{49}{56}$$

yes

$$\frac{49}{56} = \frac{49}{56} \checkmark$$

2. Determine whether $\frac{5}{6}$ and $\frac{40}{49}$ are equivalent ratios.

$$\frac{5}{6} = 0.8\bar{3}$$

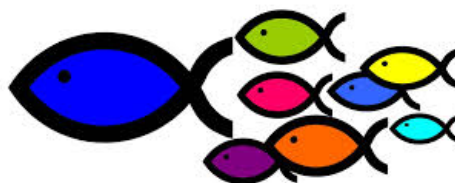
$$\frac{40}{49} = 0.816 \dots \dots$$

NO

CROSS PRODUCT:

OR... THE FISHY

$$\frac{5}{25} = \frac{30}{150}$$



$$25(30) = 5(150)$$

$$750 = 750$$

yes

3. Use cross products to determine whether the pair of ratios below forms a proportion.

$$\frac{2}{2.5} \text{ , } \frac{16}{20}$$

4. Use cross products to determine whether the pair of ratios below forms a proportion.

$$\frac{0.25}{0.6} \text{ , } \frac{1.25}{2}$$

Use cross products to determine whether the pair of ratios below forms a proportion.

5. $\frac{0.5}{1.3}, \frac{0.45}{1.17}$

6. $\frac{5}{6}, \frac{12}{15}$

7. Solve the proportion $\frac{n}{12} = \frac{3}{8}$.

$$\frac{4.5}{12}$$

$$\begin{aligned} 3(12) &= 8n \\ \frac{36}{8} &= \frac{8n}{8} \end{aligned}$$

$$4.5 = n \checkmark$$

8. Solve the proportion $\frac{(x+4)}{12} = \frac{3}{4}$.

$$\begin{array}{r}
 36 = 4(x+4) \\
 36 = 4x + 16 \\
 \underline{-16} \qquad \qquad \underline{-16} \\
 20 = 4x \\
 \underline{\quad 4} \qquad \underline{\quad 4} \\
 5 = x \\
 x = 5
 \end{array}$$

You Try!!

Solve the proportion $\frac{r}{9} = \frac{7}{10}$.

9.

Solve the proportion $\frac{x-6}{16} = \frac{5}{8}$.

10.

$$\frac{4x+7}{15} = \frac{6x+2}{10}$$

11. **BICYCLING** The ratio of a gear on a bicycle is 8:5. This means that for every eight turns of the pedals, the wheel turns five times. Suppose the bicycle wheel turns about 2435 times during a trip. How many times would you have to crank the pedals during the trip?

You have to crank the pedals 3896 times.

$$\frac{8 \text{ pedals}}{5 \text{ wheels}} = \frac{X \text{ pedals}}{2435 \text{ wheels}}$$

$$5X = 8(2435)$$

$$5X = \frac{19480}{5}$$

$$X = 3896$$

12. **BICYCLING** Trent goes on 30-mile bike ride every Saturday. He rides the distance in 4 hours. At this rate, how far can he ride in 6 hours?

$$\frac{30 \text{ mi}}{4 \text{ hr}} = \frac{X \text{ mi}}{6 \text{ hr}}$$

$$X = 45 \text{ mi}$$

$$4X = 30(6)$$

$$\frac{4X}{4} = \frac{180}{4}$$

13. **MAPS** In a road atlas, the scale for the map of Connecticut is 5 inches = 41 miles. What is the distance in miles represented by $2\frac{1}{2}$ inches on the map?

2.5

14. **AIRPLANES** On a model airplane, the scale is 5 centimeters = 2 meters. If the model's wingspan is 28.5 centimeters, what is the actual wingspan?



Homework 2.6

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#9-33