

January 15, 2015 ^{1st} ^{2nd} Starter

Robert took a test with 20 questions. The test was graded so that each right answer earned 10 points but each wrong answer took away 5 points. Robert answered all 20 questions and had a score of 125. How many wrong answers did he have



MELLOW

$$9) \frac{4}{3} = \frac{2 \cdot 2}{m \cdot 2}$$

$$\frac{3}{2} = \frac{2m}{2}$$

$$\frac{3}{2} = m$$

$$1\frac{1}{2} = m$$

$$\textcircled{19} \frac{p}{5.4} = \frac{3}{2.3} \quad (5.4)$$
~~$$\frac{p}{5.4} = \frac{3}{2.3} \quad (5.4)$$~~

$$\frac{2.3p}{2.3} = \frac{16.2}{2.3}$$

$$p = 7.04$$

$$16.2 \div 2.3 = 7.043478$$

↑

$$18) \frac{10n}{2 \cdot 2} = \frac{3 \cdot 1}{3 \cdot 7} \cdot 10$$

$$\frac{37 \cdot 10n}{37 \cdot 22} = \frac{31 \cdot 22}{37 \cdot 22}$$

$$\rightarrow \frac{370n}{370} = \frac{682}{370}$$

$$n = 1.84$$

$$682 \div 370 = 1.843243$$

↑

1/15 - Proportions using Similar Figures

"Similar" means the figures...

- ~ have the same shape
- ~ could be different sizes
- ~ are proportional



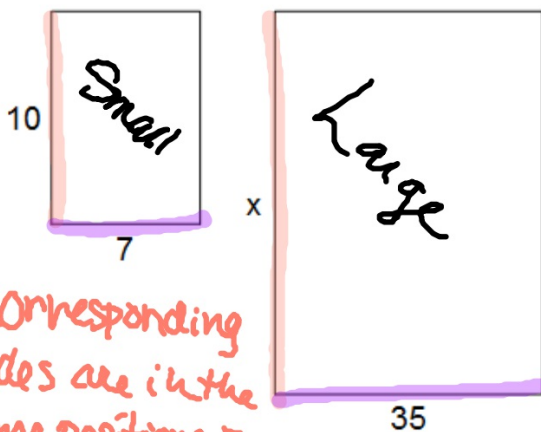
Which of these moves result in similar shapes?

Similar
Slide
Zoom in
Zoom out
Rotate
Flip

NOT Similar
Horizontal Stretch
Vertical stretch

If two figures are similar, you can find the missing side measurements since they are proportional!

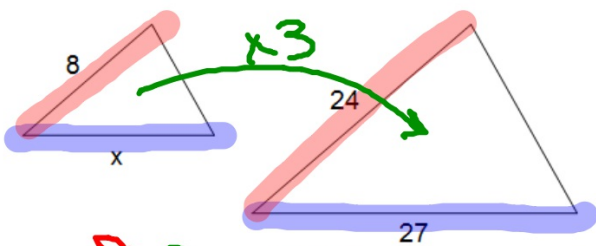
Find the missing measurement.
The shapes are similar.



Corresponding
Sides are in the
same positions on
both figures.

$$\begin{array}{l} \text{Small } \frac{7 \cdot 10}{\text{large } \cdot X} = \frac{7 \cdot 10}{35 \cdot 10} \quad \text{Small} \\ \text{large} \end{array}$$
$$\frac{7x}{7} = \frac{350}{7}$$
$$x = 50$$

Find the missing measurements of these similar figures.



$$\frac{8 \cdot 3}{x \cdot 3} = \frac{24}{27}$$

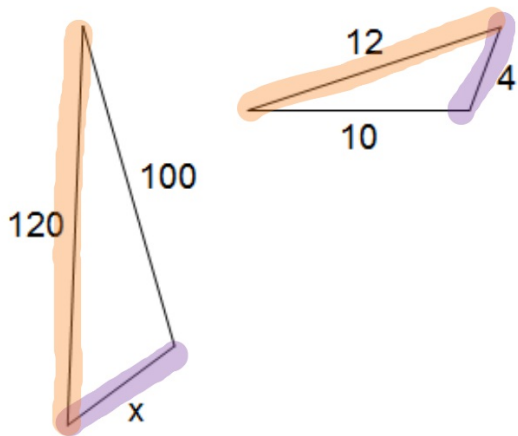
$$\begin{array}{r} 3x = 27 \\ \hline 3 \quad 3 \\ x = 9 \end{array}$$



$$\frac{12}{36} = \frac{4 \cdot x}{4 \cdot 9}$$

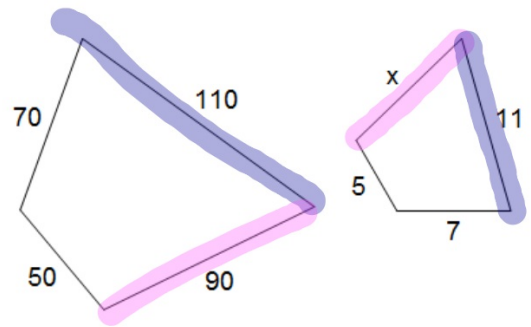
$$\frac{12}{4} = \frac{4x}{4}$$

$$3 = x$$



$$\frac{120}{x} = \frac{10 \cdot 12}{10 \cdot 4}$$

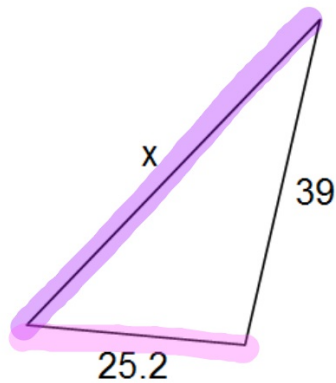
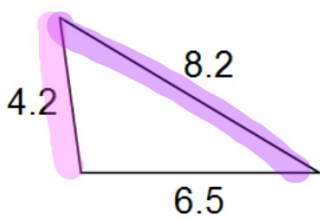
$$x = 40$$



$$\frac{90}{110} = \frac{10 \cdot x}{10 \cdot 11}$$

$$\frac{90}{10} = \frac{10x}{10}$$

$$9 = x$$



No!

$$\frac{\cancel{8.2}}{4.2} = \frac{\cancel{25.2}}{x}$$

$$25.2 \frac{8.2}{4.2} = \frac{x}{25.2} 4.2$$

$$\frac{82}{x} = \frac{42}{25.2}$$

$$(25.2)(8.2) = 4.2x$$

$$\frac{206.64}{4.2} = \frac{4.2x}{4.2}$$

$$49.2 = x$$

$$206.64 \div 4.2 = 49.2$$

Homework

Gold WS 2

Due Tuesday