Are the following ratios proportional?

$\frac{10}{12} \quad \frac{15}{18}$

180 180

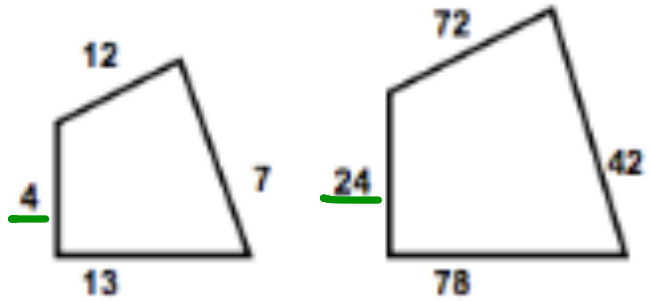
105 is 70% of what number?

$$\frac{105}{x} = \frac{70}{100}$$

$$\frac{10500}{70} = \frac{70x}{70}$$

$$150 = x$$

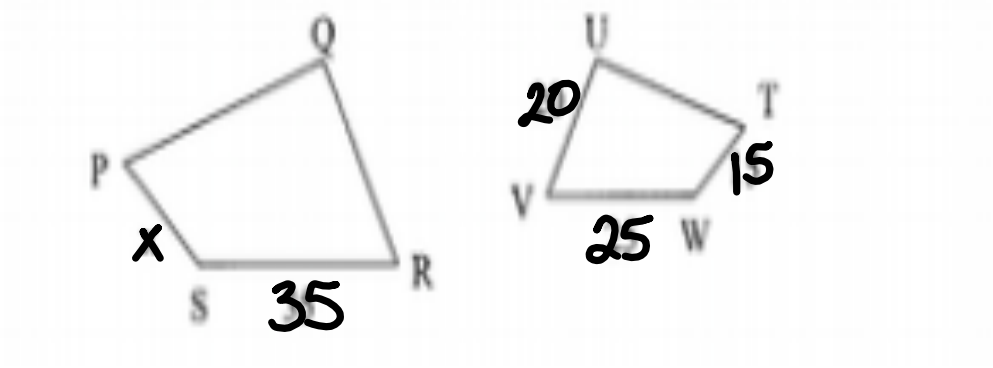
Are the following figures similar?



$\frac{4}{24} = \frac{1}{6}$ $\frac{7}{42} = \frac{1}{6}$

$\frac{12}{72} = \frac{1}{6}$ $\frac{13}{78} = \frac{1}{6}$

The following two shapes are similar, find x:



21 - x

A frog can croak 15 times in 45 seconds. How many seconds will it take a frog to croak 260 times?

$$\frac{15}{45} = \frac{260}{x}$$

$$\frac{15x}{15} = \frac{11700}{15}$$

$$x = 780 \text{ sec}$$

Solve for x:

$-3(x - 4) - 9x = -10x + 16$

$-3x + 12 - 9x = -10x + 16$

$-12x + 12 = -10x + 16$

$+10x \qquad +10x$

$-2x + 12 = 16$

$-12 \quad -12$

$-2x = 4$

$x = -2$

Lauren has $40 and is saving $20 a week babysitting. Kevin has $145 and is spending $15 a week on food. After how many weeks will they have the same amount of money?

$40 + 20w = 145 - 15w$

$+15w \qquad +15w$

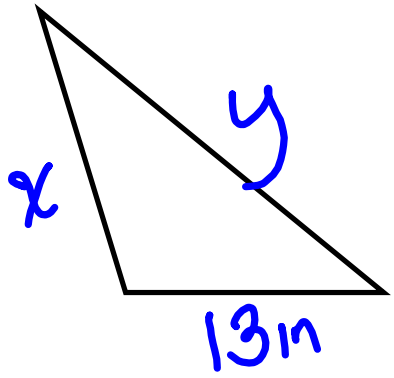
$40 + 35w = 145$

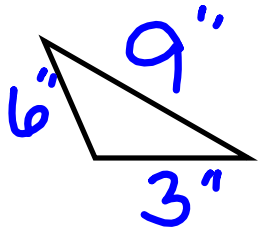
$-40 \qquad -40$

$\frac{35w}{35} = \frac{105}{35}$

$w = 3$ weeks

Sam wants to enlarge a triangle with side length 3 in, 6 in, and 9 in. If the shortest side of the new triangle is 13 in, how long will the other two sides be?





$\frac{3}{13} = \frac{6}{x}$

$\frac{3x}{3} = \frac{78}{3}$

$x = 26\text{in}$

$\frac{3}{13} = \frac{9}{y}$

$\frac{117}{3} = \frac{3y}{3}$

$39\text{in} = y$