

TH-A1

Algebra 1

Week 20

2/16

$$1.) \quad \frac{12}{28} = \frac{X}{42}$$

$$12(42) = 28X$$

$$\frac{504}{28} = \frac{28X}{28}$$

$$\boxed{18 = X}$$

$$2.) \quad \frac{X+2}{8} = \frac{2X+10}{12}$$

$$12(X+2) = 8(2X+10)$$

$$12X + 24 = \boxed{16X} + 80$$

$$-12X \quad -12X$$

$$24 = 4X + 80$$

$$-80 \quad -80$$

$$\frac{-56}{4} = \frac{4X}{4} *$$

$$\boxed{-14 = X}$$

In honor of the opening of Quantumania,

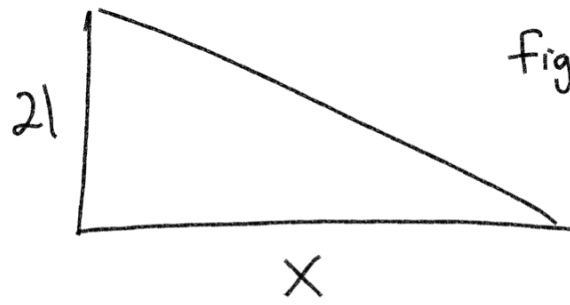
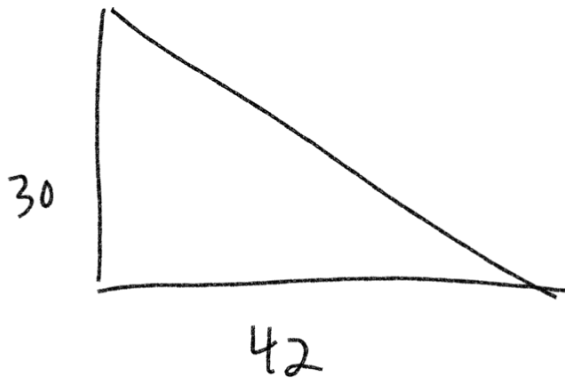
Nate ate 76 donuts over a 4 day period. If he maintained this exceedingly healthy and restrained diet, how long would it take for him to eat 3,000 donuts. You can support this "I love you 3000" initiative by going to www.pleasedontdieNate.com.

$$\frac{76 \text{ donuts}}{4 \text{ days}} = \frac{3,000 \text{ donuts}}{X \text{ days}}$$

$$76X = (3,000)(4)$$

$$\frac{76X}{76} = \frac{12,000}{76}$$

$$X = 158 \text{ days}$$



figures not drawn to scale.

Big
 $\frac{\text{Height}}{\text{Base}}$

$$\frac{30}{42} = \frac{21}{X}$$

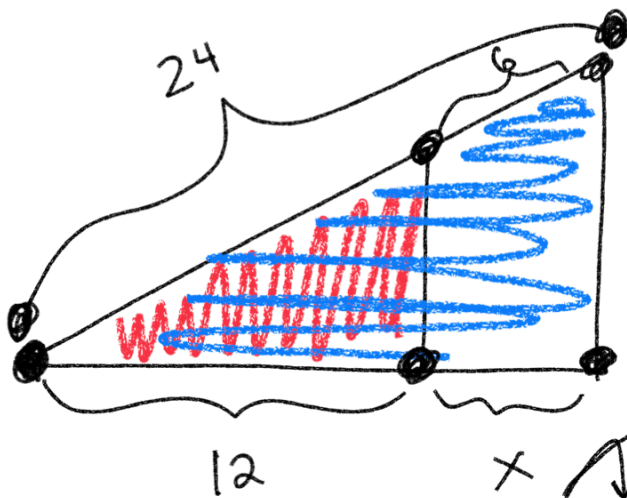
Lil

$\frac{\text{Height}}{\text{Base}}$

$$30X = (42)(21)$$

$$\frac{30X}{30} = \frac{882}{30}$$

$$X = 29.4$$



Lil

Big

$$\frac{\text{hyp}}{\text{Base}} = \frac{24-6}{12} = \frac{24}{12+X}$$

$$\frac{18}{12} = \frac{24}{12+X}$$

$$18(12+X) = (12)(24)$$

$$216 + 18X = 288$$

$$\begin{array}{r} 216 + 18X = 288 \\ -216 \\ \hline 18X = 72 \end{array}$$

$$\frac{18X}{18} = \frac{72}{18}$$

$$X = 4$$

Lilah's head
 $(12)(24)$
 $(12)(12*2)$
 $144*2$

What is 40% of 120?

$$\begin{array}{ccccccccc} \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & & & & \\ X & = & 0.40 & * & 120 & & & & \end{array}$$

$$\boxed{X = 48}$$

60% of what number is 84?

$$\begin{array}{ccccccc} \downarrow & \downarrow & & \downarrow & \downarrow & & \\ 0.60 & * & X & = & 84 & & \end{array}$$

$$\frac{0.6X}{0.6} = \frac{84}{0.6} \quad X = \frac{84}{0.6}$$

$$\boxed{X = 140}$$

28 is what percent of 80?

$$\begin{array}{ccccccc} \downarrow & \downarrow & & \downarrow & \downarrow & & \\ 28 & = & X & * & 80 & & \end{array}$$

$$\frac{28}{80} = \frac{80X}{80} *$$

$$X = \frac{28}{80} = 0.35 \xrightarrow[*100]{\%} \boxed{35\%}$$

1.) 70% of 30 is what number?
↓ ↓ ↓ ↓
0.70 * 30 = x

$$\boxed{21 = x}$$

2.) 45 is what percent of 240?
↓ ↓ ↓ ↓
45 = x * 240

$$\frac{45}{240} = \frac{240x}{240} \quad x = \frac{45}{240} = 0.1875 = \boxed{19\%}$$

3.) 84% of what number is 28?
↓ ↓ ↓ ↓
0.84 * x = 28

$$\frac{0.84x}{0.84} = \frac{28}{0.84} \quad \boxed{x = 33.\bar{3}}$$