

TH-PA Pre-Algebra Week 29 4/27

1.) Find the unit rate

a) 84 donuts eaten over 6 days

$$\text{unit rate} = \frac{\text{quantity}}{\text{time}} = \frac{84 \text{ donuts}}{6 \text{ days}}$$

$$\begin{array}{r} 14 \\ 6 \overline{) 84} \\ \underline{-6} \\ 24 \\ \underline{-24} \\ 0 \end{array} \quad 14 \text{ donuts/day}$$

b) Nix slept 82 hours over the course of 5 days

$$\frac{82 \text{ hr}}{5 \text{ days}} = 16.4 \text{ hrs/day}$$

2.) $\frac{n}{10} = \frac{4}{8}$

$$\left(\frac{n}{10}\right) = \left(\frac{4}{8}\right) 10$$

$$8n = (10)(4)$$

$$\frac{8n}{8} = \frac{40}{8}$$

$$n = \frac{40}{8} = 5$$

$$\boxed{n = 5}$$

3.) $\frac{2}{6} = \frac{9}{x}$

$$(6)(9) = 2x$$

$$\frac{54}{2} = \frac{2x}{2}$$

$$\boxed{x = 27}$$

4.) $\frac{r}{10} = \frac{8}{5}$

$$5r = (10)(8)$$

$$\frac{5r}{5} = \frac{80}{5}$$

$$\boxed{r = 16}$$

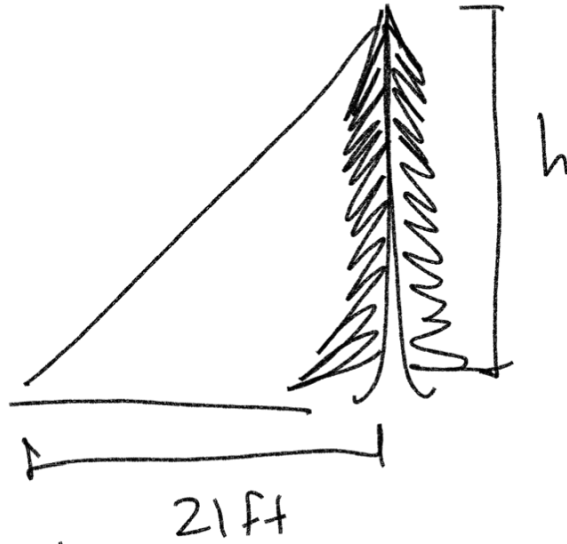
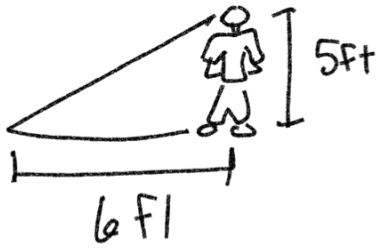
5.) $\frac{n}{8} = \frac{2}{6}$

$$(8)(2) = 6n$$

$$\frac{16}{6} = \frac{6n}{6}$$

$$n = \frac{16 \div 2}{6 \div 2} = \frac{8}{3}$$

$$\boxed{2.\bar{6}}$$



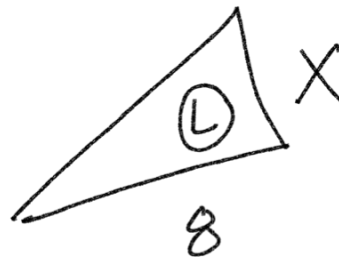
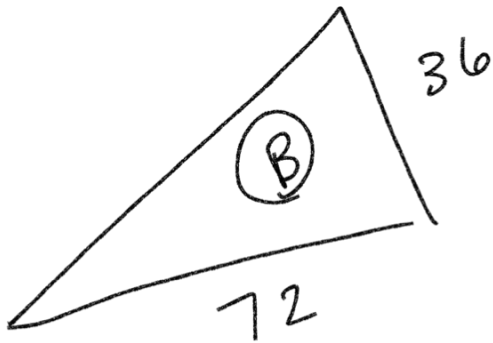
$$\frac{\text{Height}}{\text{shadow}} = \frac{5\text{ft}}{6\text{ft}} = \frac{h}{21\text{ft}}$$

$$(5)(21) = 6h$$

$$\frac{105}{6} = \frac{6h}{6}$$

$$h = 17.5\text{ft}$$

Similar figures



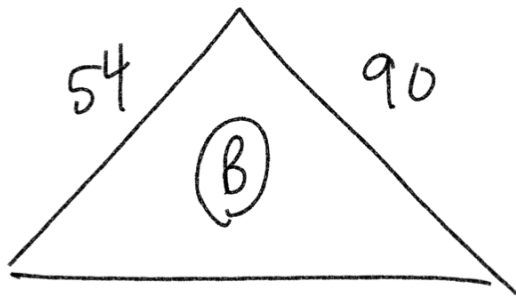
$$\frac{\text{Base}}{\text{height}} = \frac{72}{36} = \frac{8}{X}$$

Big'n Lil'n

$$72X = (36)(8)$$

$$\frac{72X}{72} = \frac{288}{72}$$

$$X = 4$$



$$\frac{\text{Left}}{\text{Right}} = \frac{54}{90} = \frac{X}{10}$$

$$(54)(10) = 90X$$

$$\frac{540}{90} = \frac{90X}{90}$$

$$6 = X$$

Probability

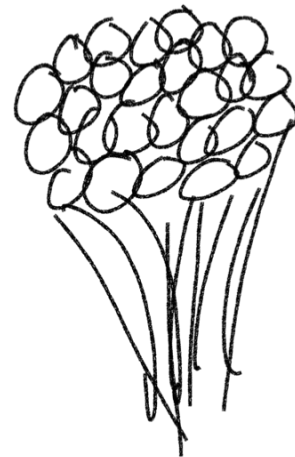
$\frac{\# \text{ of desired outcomes}}{\text{total } \# \text{ of outcomes}}$

Jolly Ranchers	8
Swedish Fish	12
Air Heads	16
M&Ms	24

total 60

$$P(\text{M\&Ms}) = \frac{24 \div 12}{60 \div 12} = \frac{2}{5}$$

$$P(\text{Air Heads}) = \frac{16 \div 4}{60 \div 4} = \frac{4}{15}$$



$$P(\text{Swedish fish or Jolly}) = \frac{12 + 8}{60} = \frac{20}{60} = \frac{1}{3}$$

$$P(\text{not Jolly}) = \frac{60 - 8}{60} = \frac{52}{60} = \frac{13}{15}$$

$$P(\text{twizzler}) = 0$$

Favorite Food

Tacos 12

Corn Dogs 8

Cheeseburger 24

Italian 36

total 80

$$P(\text{tacos}) = \frac{12 \div 4}{80 \div 4} = \boxed{\frac{3}{20}}$$

$$P(\text{not Italian}) = \frac{80 - 36}{80} = \frac{44 \div 4}{80 \div 4} = \boxed{\frac{11}{20}}$$

$$P(\text{corned dog or cheeseburger}) = \frac{8 + 24}{80} = \frac{32 \div 16}{80 \div 16} = \boxed{\frac{2}{5}}$$

$$P(\text{cheeseburger}) = \frac{24 \div 8}{80 \div 8} = \boxed{\frac{3}{10}}$$