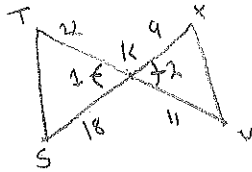


1a  $\triangle ABE \sim \triangle ACD$ , AA

$$\begin{array}{l} \overline{AB} \sim \overline{AC} \\ \overline{AE} \sim \overline{AD} \\ \overline{BE} \sim \overline{CD} \end{array} \left\{ \begin{array}{l} \angle A \cong \angle A \\ \angle B \cong \angle C \\ \angle E \cong \angle D \end{array} \right.$$

1b  $\triangle SKT \sim \triangle XKW$ , SAS



$$\begin{array}{l} \angle 1 \cong \angle 2 \\ \frac{9}{18} = \frac{1}{2} = \frac{\overline{XK}}{\overline{SK}} \\ \frac{11}{12} = \frac{1}{2} = \frac{\overline{KW}}{\overline{TK}} \end{array}$$

$$\begin{array}{l} \overline{SK} \sim \overline{XK} \\ \overline{ST} \sim \overline{XW} \\ \overline{KT} \sim \overline{KW} \end{array} \left\{ \begin{array}{l} \angle S \cong \angle X \\ \angle K \cong \angle K \\ \angle T \cong \angle W \end{array} \right.$$

1c  $\triangle MON \sim \triangle$  ← It's a TRAP!

$$\frac{36}{21} =$$

$$\frac{25}{15} = \frac{5}{3}$$

$$\frac{30}{21} = \frac{10}{7}$$

$$\frac{5}{3} \neq \frac{10}{7}$$

not similar

3b)  $\frac{5}{9.8} = \frac{x}{10.5}$

$$22.5 = 9.8x$$

$$5.357 = x$$

3c)  $\frac{x}{9.8} = \frac{10.8}{20}$

$$20x = 105.84$$

$$x = 5.292$$



$$\frac{504}{x} = \frac{90}{71}$$

$$90x = 35,784$$

$$x = 397.6 \text{ in}$$

$$x = 33.133 \text{ ft}$$

2. a) all corresponding sides are proportional

b) all corresponding angles are congruent

3.  $\frac{x}{10} = \frac{12}{9}$

$$9x = \frac{120}{9}$$

$$x = \frac{40}{3} \text{ cm}$$

$$\frac{14}{y} = \frac{12}{21}$$

$$\frac{14}{y} = \frac{4}{7}$$

$$98 = 4y$$

$$\frac{98}{4} = y$$

$$\frac{49}{2} \text{ cm} = y$$

$$5a) \frac{4}{5} \xrightarrow{\text{Vol}} \frac{64}{125}$$

$$\frac{64}{125} = \frac{80}{x}$$

$$64x = 10,000$$

$$x = \frac{62.5}{4} \text{ grams}$$

$$5b) \frac{3}{4} \xrightarrow{\text{Area}} \frac{9}{16}$$

$$\frac{9}{16} = \frac{24}{x}$$

$$9x = 384$$

$$x = \frac{128}{3} \text{ m}^2$$

$$5c) \frac{5}{4} = \frac{3.5}{x}$$

$$5x = 14$$

$$x = \frac{14}{5} \text{ ft}$$

$$5d) \frac{3}{4} \xrightarrow{\text{Vol}} \frac{27}{64}$$

$$\frac{27}{64} = \frac{x}{1000}$$

$$27000 = 64x$$

$$x = \frac{3375}{8} \text{ grams}$$

$$6a) \frac{3}{15} \xrightarrow{\text{area}} \boxed{\frac{9}{225}}$$

$$6b) \frac{133}{2147} \xrightarrow{\text{side}} \frac{11}{13} \xrightarrow{\text{Vol}} \boxed{\frac{121}{169}}$$

$$6c) \frac{49}{144} \xrightarrow{\text{side}} \frac{7}{12} \xrightarrow{\text{Vol}} \boxed{\frac{343}{1728}}$$

$$7 \frac{A}{B} = \frac{16}{100} = \frac{4}{25} \xrightarrow{\text{Side}} \frac{2}{5}$$

$$\frac{2}{5} = \frac{28}{x}$$

$$2x = 140$$

$$x = 70 \text{ units}$$

$$8a) \frac{108}{x} = \frac{x}{5}$$

$$x^2 = 540$$

$$x = \sqrt{540}$$

$$x = \sqrt{4 \cdot 9 \cdot 15}$$

$$\boxed{x = 6\sqrt{15}}$$

$$8b) \frac{x-3}{x} = \frac{8}{12}$$

$$\frac{x-3}{x} = \frac{2}{3}$$

$$3x - 9 = 2x$$

$$-9 = -x$$

$$\boxed{9 = x}$$

$$8c) \frac{27}{x} = \frac{5}{3}$$

$$81 = 5x$$

$$\boxed{\frac{81}{5} = x}$$

$$8d) \frac{2x-3}{x+7} = \frac{3}{11}$$

$$22x - 33 = 3x + 21$$

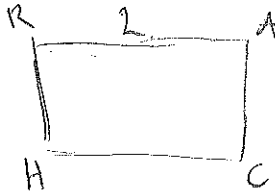
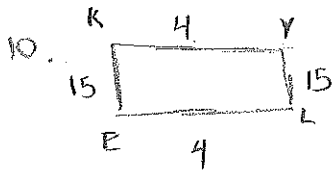
$$19x = 54$$

$$x = \frac{54}{19}$$

$$9. \quad \frac{5}{360,000} = \frac{12}{X}$$

$$5x = 4320000$$

$$x = \$864,000$$



$$\frac{\text{RACH}}{\text{KYLE}} = \frac{2}{4} = \frac{1}{2}$$

$$\frac{1}{2} = \frac{x}{38}$$

$$x = 19 \text{ cm}$$

$$\frac{1}{4} = \frac{x}{60}$$

$$60 \approx 4x$$

$$\boxed{1500 = x}$$

11.

$$\frac{\frac{3}{4} \text{ Flour}}{6} = \frac{20}{x}$$

$$\frac{3}{4}x = 120$$

$$3x = 480$$

$$x = 160 \text{ Cookies}$$

eggs

$$\frac{2}{12} = \frac{20}{x}$$

$$2x = 240$$

$$\boxed{x = 120} \text{ cookies}$$

↑ I'm limited by my  
eggs