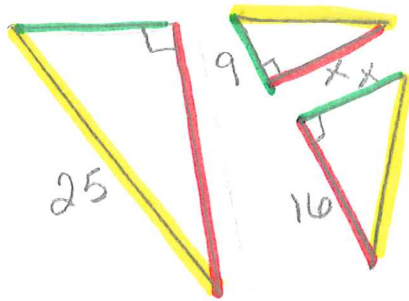
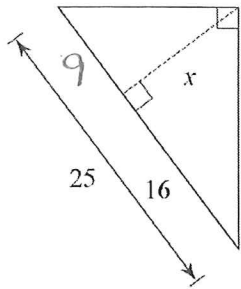


Geometric Mean Day 1 Homework

the missing variables

Directions: Draw out the 3 triangles and color code to help find ~~x, y, and/or z~~. In each problem, find the missing length(s) that are indicated. Leave your answer in SIMPLEST RADICAL FORM!

1.

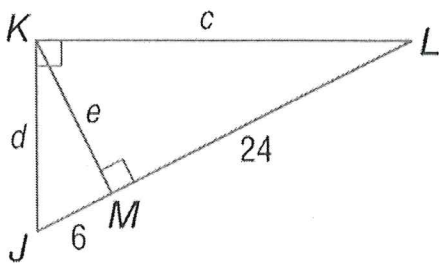


$$\frac{9}{x} = \frac{x}{16}$$

$$x^2 = 144$$

$$\boxed{x = 12}$$

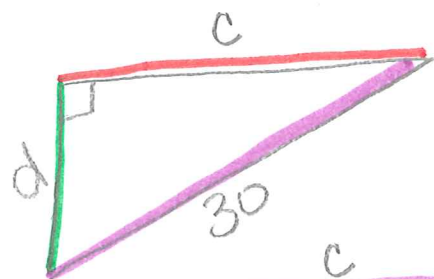
2.



$$\frac{e}{6} = \frac{24}{e}$$

$$e^2 = 144$$

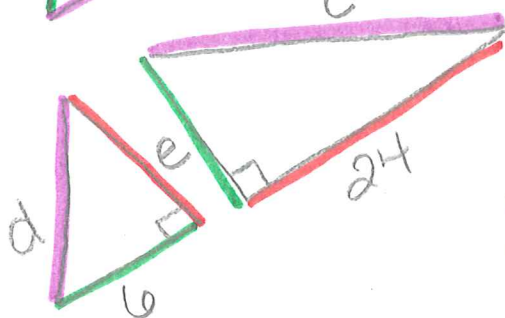
$$\boxed{e = 12}$$



$$\frac{c}{30} = \frac{24}{c}$$

$$c^2 = 720$$

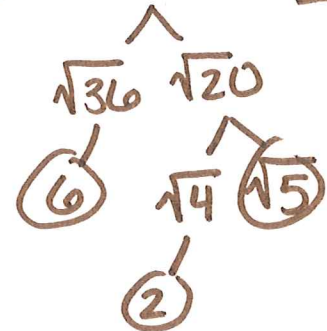
$$c = \sqrt{720} \quad \boxed{c = 12\sqrt{5}}$$



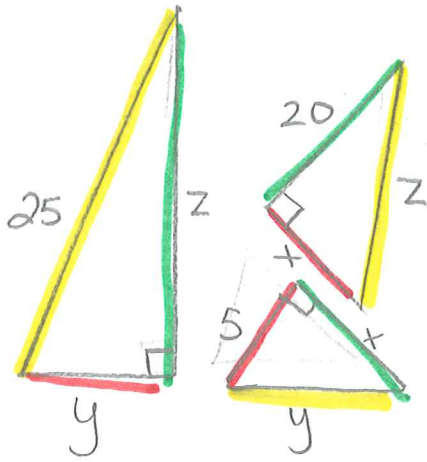
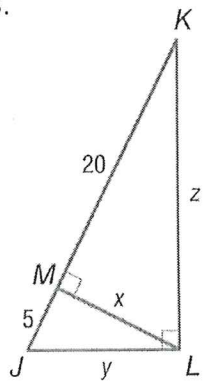
$$\frac{d}{6} = \frac{30}{d}$$

$$\sqrt{d^2} = \sqrt{180}$$

$$\sqrt{d^2} = \sqrt{36 \cdot 5} \quad \boxed{d = 6\sqrt{5}}$$



3.



$$\frac{x}{5} = \frac{20}{x}$$

$$x^2 = 100$$

$$\boxed{x = 10}$$

$$\frac{y}{5} = \frac{25}{y}$$

$$y^2 = 125$$

$$\boxed{y = 5}$$

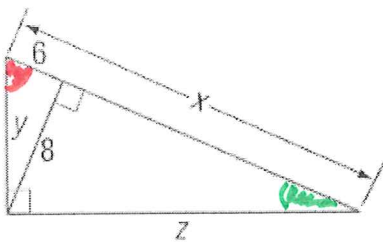
$$\frac{z}{20} = \frac{25}{z}$$

$$\sqrt{z^2} = \sqrt{500}$$

$\sqrt{100} \cdot \sqrt{5}$
(10) (5)

$$\boxed{z = 10\sqrt{5}}$$

4.

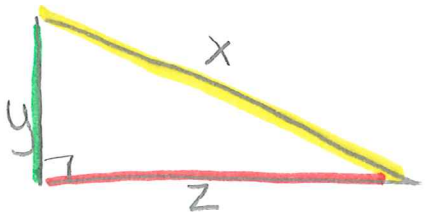


$$6x - 36 = 64$$

$$6x = 100$$

$$\boxed{x = 16.\bar{6}}$$

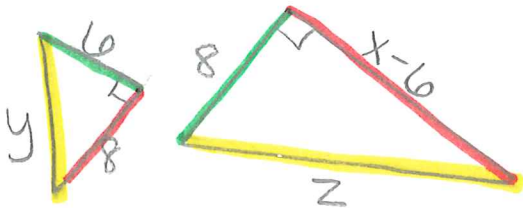
$$\frac{6}{8} = \frac{8}{x-6}$$



$$\frac{y}{6} = \frac{16.\bar{6}}{y}$$

$$y^2 = 100$$

$$\boxed{y = 10}$$



$$\frac{z}{16.\bar{6}} = \frac{10.\bar{6}}{z}$$

$$z^2 = 111.\bar{7}$$

$$\boxed{z = \sqrt{111.\bar{7}}}$$