

Name Key

Hour _____

Geometric Mean Homework #2

Directions: Determine if the following sides form right triangles. Then state if they form a Pythagorean Triple.

1. 30, 40, 50

Yes, Yes

2. 20, 30, 40

no, NO

3. 18, 24, 30

Yes, Yes

4. $\frac{3}{7}, \frac{4}{7}, \frac{5}{7}$

Yes, NO

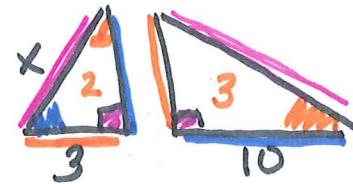
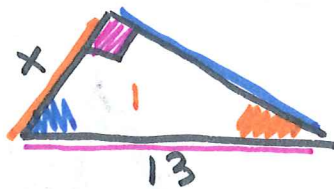
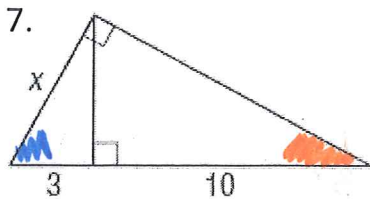
5. 9, 40, 41

Yes, Yes

6. $2, \sqrt{8}, \sqrt{12}$

Yes, NO

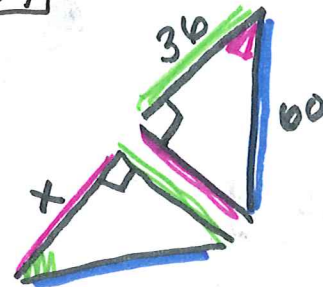
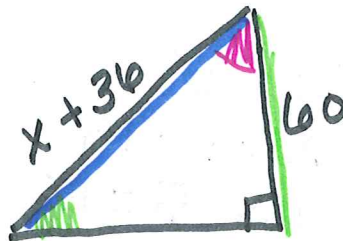
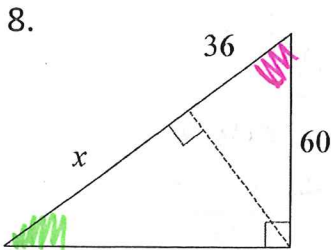
Directions: Find x, y, and z for the following.



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

$$x^2 = 39$$

$$x = \sqrt{39}$$



$$\frac{x+36}{60} = \frac{60}{36}$$

$$36(x+36) = 3600$$

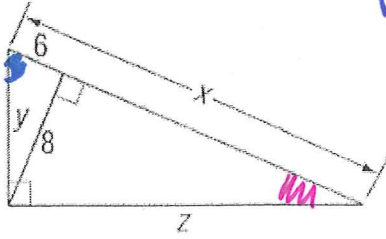
$$36x + 1296 = 3600$$

$$36x = 2304$$

$$x = 64$$

$$x = 64$$

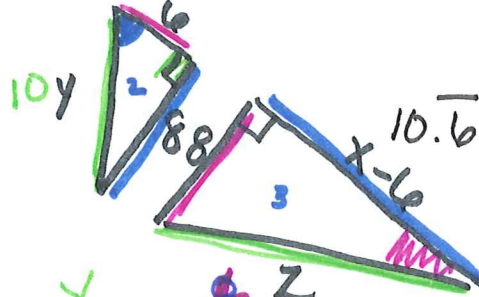
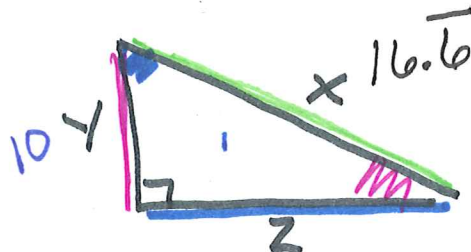
9.



$$\begin{aligned} \Delta 3 \quad \frac{x-6}{8} &= \frac{8}{6} \\ \Delta 2 \quad \frac{8}{8} &= \frac{8}{6} \end{aligned}$$

$$\begin{aligned} 6x - 36 &= 64 \\ 6x &= 100 \end{aligned}$$

$$x = \frac{100}{6} \approx 16.7$$

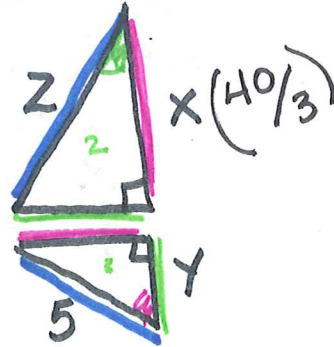
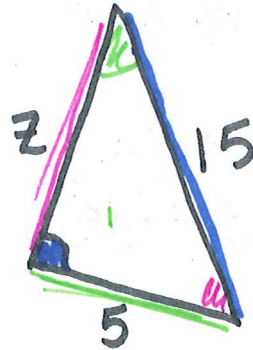
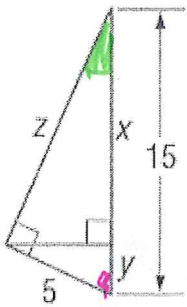


$$\begin{aligned} \Delta 2 \quad \frac{y}{(100/6)} &= \frac{6}{y} \\ \Delta 1 \quad (100/6) &= y \\ y^2 &= 6(100/6) \\ y^2 &= 100 \\ y &= 10 \end{aligned}$$

$$\frac{\Delta 3}{\Delta 2} \Rightarrow \frac{z}{10} = \frac{80}{6}$$

$$z \approx 13.3$$

10.



Find y:

$$\begin{aligned} \Delta 3 \quad \frac{y}{5} &= \frac{5}{15} \\ \Delta 1 \quad \frac{5}{5} &= \frac{5}{15} \end{aligned}$$

$$15y = 25$$

$$y = 1.\bar{6} \text{ or } \frac{5}{3}$$

Find x

$$\begin{aligned} x + y &= 15 \\ x + 1.\bar{6} &= 15 \end{aligned}$$

$$x = 13.3 \text{ or } x = \frac{40}{3}$$

Find z

$$\begin{aligned} \Delta 2 \quad \frac{z}{15} &= \frac{(40/3)}{z} \\ \Delta 1 \quad \frac{z}{15} &= \frac{z}{z} \end{aligned}$$

$$z^2 = 15 \cdot \frac{40}{3}$$

$$\sqrt{z^2} = \sqrt{200}$$

$$z = 10\sqrt{2}$$