

① 2 and 8

$$\frac{2}{x} = \frac{x}{8}$$

$$x^2 = 16$$

$$x = 4$$

② 5 and 10

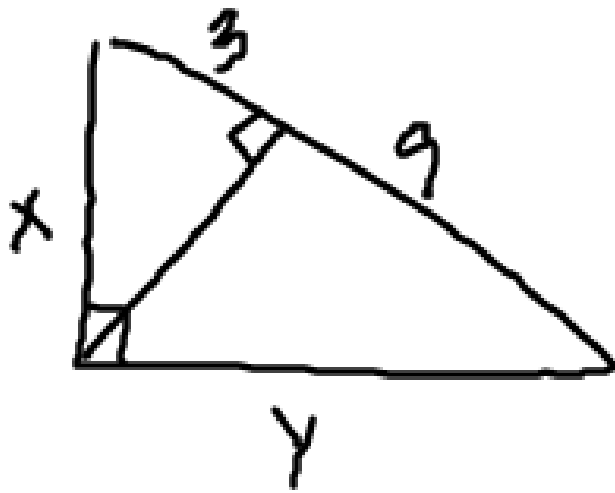
$$\frac{5}{x} = \frac{x}{10}$$

$$x^2 = 50$$

$$x \approx 7.1$$

$$\text{or } 5\sqrt{2}$$

3.



$$\frac{12}{x} = \frac{x}{3}$$

$$x^2 = 36$$

$$x = 6$$

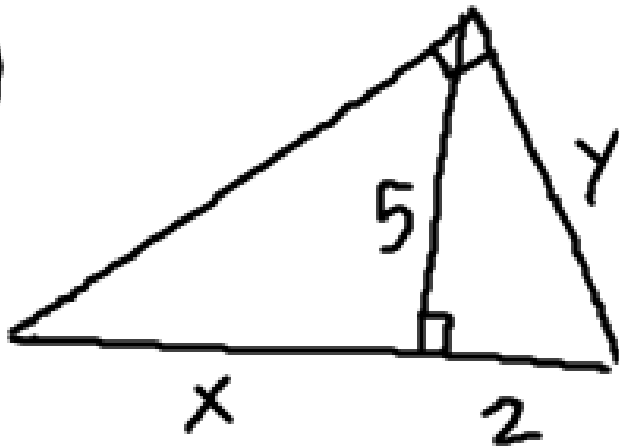
$$\frac{12}{y} = \frac{y}{9}$$

$$y^2 = 108$$

$$y \approx 10.4$$

$$\text{or } 6\sqrt{3}$$

4.



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

$$2x = 25$$

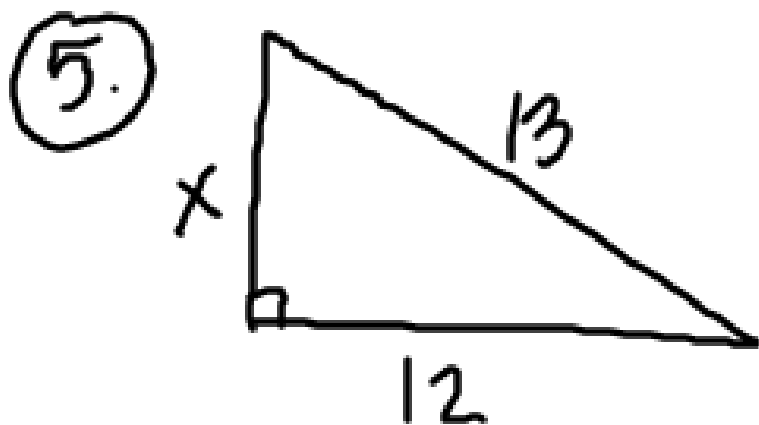
$$x = 12.5$$

$$\frac{14.5}{y} = \frac{y}{2}$$

$$y^2 = 29$$

$$y \approx 5.4$$

$$\text{or } \sqrt{29}$$

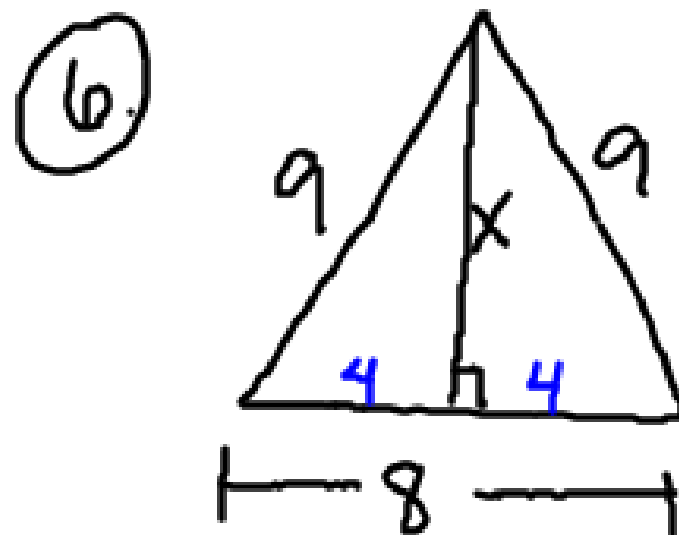


$$x^2 + 12^2 = 13^2$$

$$\begin{array}{r} x^2 + 144 = 169 \\ -144 \quad -144 \\ \hline \end{array}$$

$$x^2 = 25$$

$$\boxed{x = 5}$$



$$x^2 + 4^2 = 9^2$$

$$\begin{array}{r} x^2 + 16 = 81 \\ -16 \quad -16 \\ \hline \end{array}$$

$$x^2 = 65$$

$$\boxed{x \approx 8.1} \text{ or } \sqrt{65}$$

$$\textcircled{7} \quad S(3,3) \quad T(5,5) \quad U(6,0)$$

$$ST: \sqrt{(3-5)^2 + (3-5)^2} = \sqrt{4+4} = \sqrt{8}$$

$$TU: \sqrt{(5-6)^2 + (5-0)^2} = \sqrt{1+25} = \sqrt{26}$$

$$SU: \sqrt{(3-6)^2 + (3-0)^2} = \sqrt{9+9} = \sqrt{18}$$

+ = 26

Yes

⑧ 12, 16, 20

$$12^2 + 16^2 = 20^2$$

$$144 + 256 = 400$$

$$400 = 400 \checkmark$$

yes, yes

9.  $2\sqrt{6}, 5, 7$

$$(2\sqrt{6})^2 + 5^2 = 7^2$$

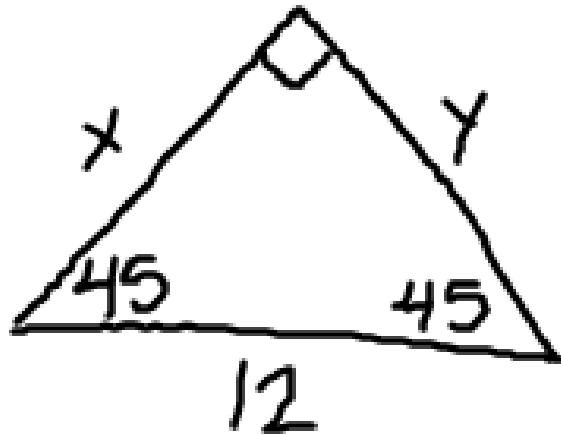
$$24 + 25 = 49$$

$$49 = 49 \checkmark$$

YES, NO

$$\begin{array}{c} 4 \cdot 6 \\ \diagdown \quad \diagup \\ 2\sqrt{6} \cdot 2\sqrt{6} \end{array}$$

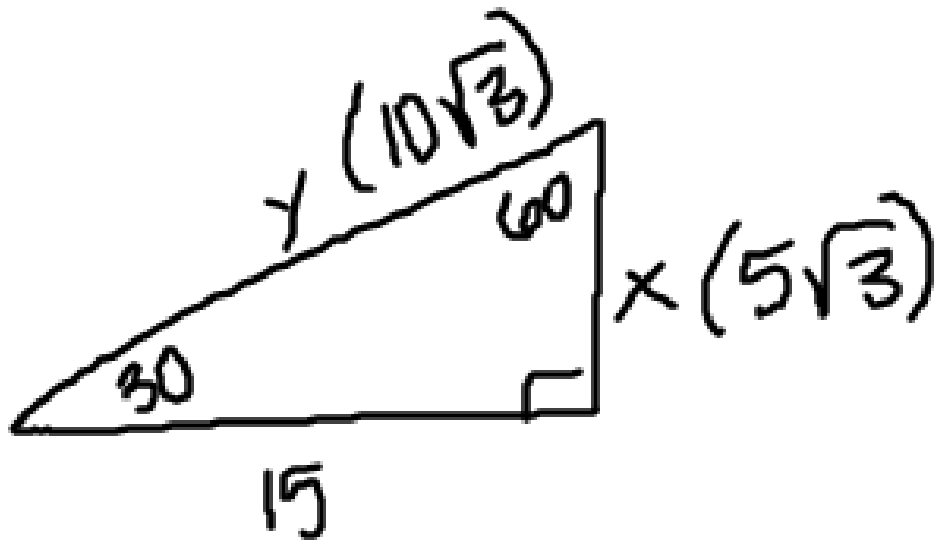
10.



$$\frac{12}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{12\sqrt{2}}{2} = \boxed{6\sqrt{2}} - \text{both } x \text{ and } y$$



11.



$$\frac{15}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{15\sqrt{3}}{3} = 5\sqrt{3}$$

$$5\sqrt{3} \cdot 2 = 10\sqrt{3}$$