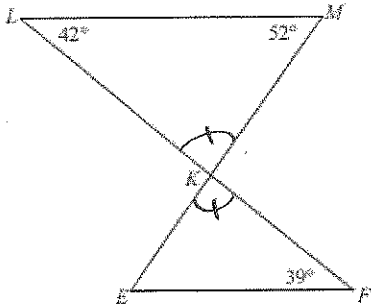


Ch. 4 Review (including material from previous units as well)

State if the triangles in each pair are similar. If so, state how you know they are similar and complete a flow chart.

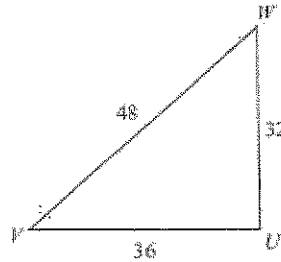
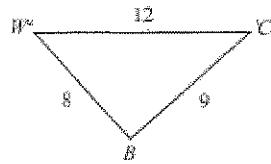
1)



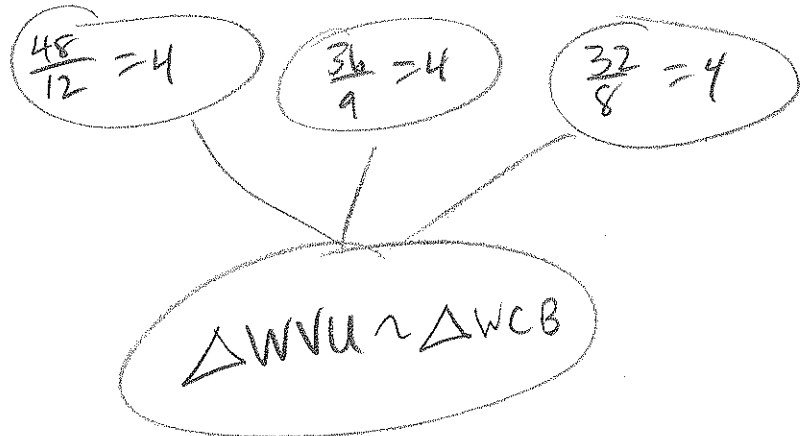
$\Delta KLM \sim$ _____

Only one pair of angles, so not similar!

2)

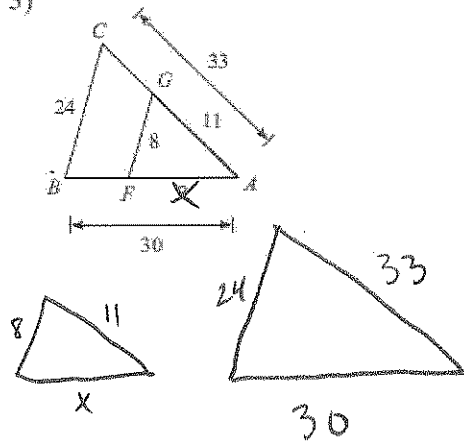


$\Delta WVU \sim$ _____



Find the missing length. The triangles in each pair are similar.

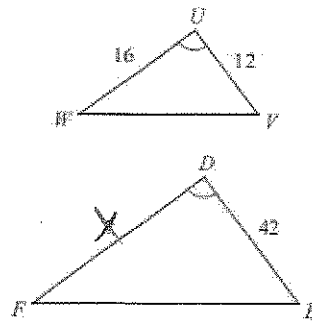
3)



$$\frac{33}{11} = \frac{30}{x}$$

$$x = 10$$

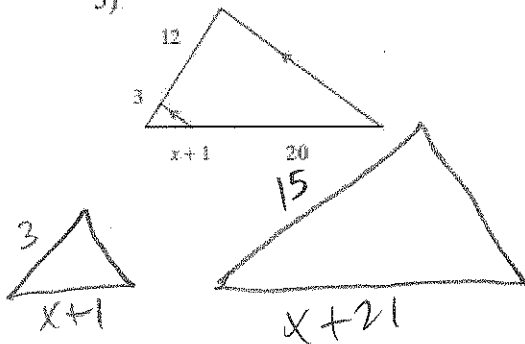
4)



$$\frac{42}{12} = \frac{x}{16}$$

$$x = 56$$

5)



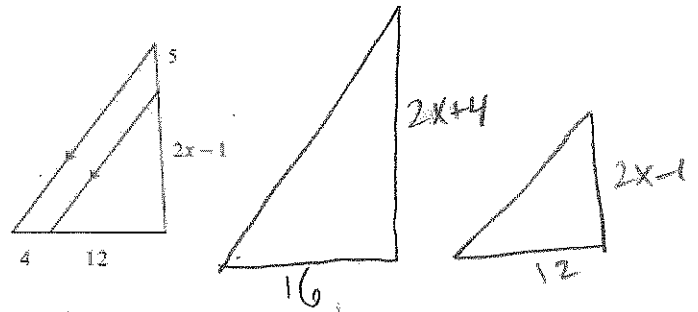
$$\frac{x+21}{x+1} = \frac{15}{3}$$

$$3x+63 = 15x+15$$

$$\frac{48}{12} = \frac{12x}{12}$$

$$x = 4$$

6)



$$\frac{2x+4}{2x-1} = \frac{16}{12}$$

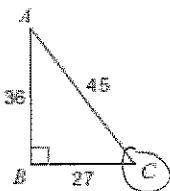
$$24x+48 = 32x-16$$

$$8x = 64$$

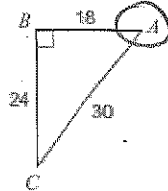
$$x = 8$$

Find the value of each trigonometric ratio to the nearest ten-thousandth.

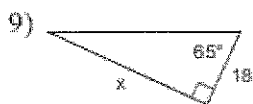
7) $\tan C = \frac{36}{27} \approx 1.3333$



8) $\tan A = \frac{24}{18} \approx 1.3333$

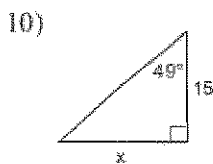


Find the missing side. Round to the nearest tenth.



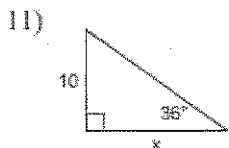
$$\tan 65^\circ = \frac{x}{18}$$

$$x = 38.6$$



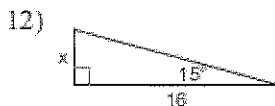
$$\tan 49^\circ = \frac{x}{15}$$

$$x = 17.3$$



$$\tan 36^\circ = \frac{10}{x}$$

$$x = 13.8$$

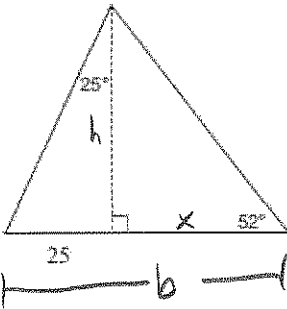


$$\tan 15^\circ = \frac{x}{16}$$

$$x = 4.3$$

Find the area of each triangle. Round your final answer to the nearest tenth.

13)



$$\tan 25 = \frac{25}{h}$$

$$h = 53.6$$

$$\tan 52 = \frac{53.6}{x}$$

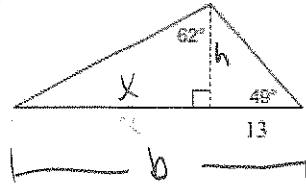
$$x = 41.89$$

$$b = 66.89$$

$$A = \frac{(66.89 \cdot 53.6)}{2}$$

$$A = 1792.99 \text{ u}^2$$

14)



$$\tan 49 = \frac{h}{13}$$

$$h = 14.95$$

$$\tan 62 = \frac{x}{14.95}$$

$$x = 28.13$$

$$b = 41.13$$

$$A = \frac{(41.13 \cdot 14.95)}{2}$$

$$A = 307.5 \text{ u}^2$$

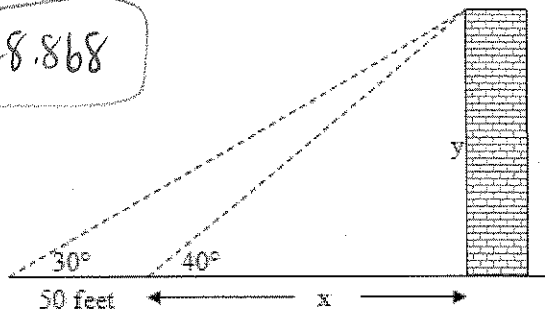
15) An observer on the ground looks up to the top of a building at an angle of elevation of 30° . After moving 50 feet closer, the angle of elevation is now 40° . Consider the diagram below. Solve for x .

$$\tan 30 = \frac{y}{x+50} \approx 0.5774$$

$$y = 0.5774x + 28.868$$

$$\tan 40 = \frac{y}{x} \approx 0.8391$$

$$y = 0.8391x$$



$$0.5774x + 28.868 = 0.8391x$$

$$28.868 = 0.26175x$$

$$x = 110.29 \text{ ft}$$