

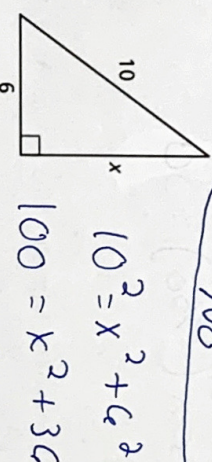
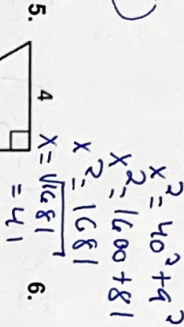
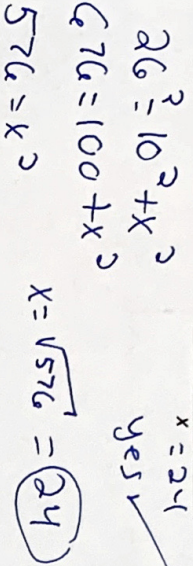
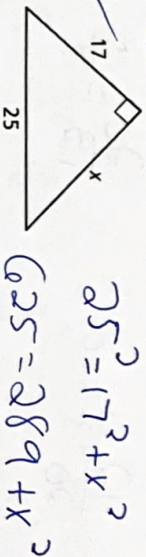
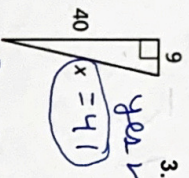
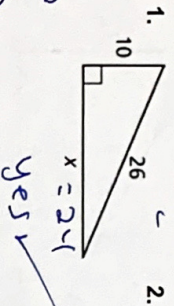
Key.

★ Please make sure your calculator is set to DEG (degrees)

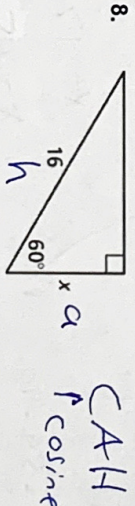
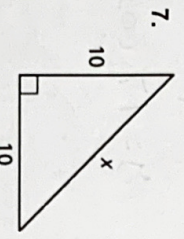
Chapter 9 Skills Review - March 23 - 27

**SOH CAHTOA**

Find the value of  $x$ . Then tell whether the side lengths form a Pythagorean triple.



Find the value of  $x$ . Write your answer in simplest form.

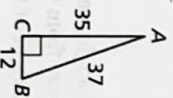


$x^2 = 10^2 + 10^2$   
  $x^2 = 100 + 100$   
  $x^2 = 200$   
  $x = \sqrt{200} \approx 14.14$

$\frac{\cos(60)}{1} = \frac{x}{16}$   
  $\cos(60) = x = 8$

Use the figure. Write your answer as a fraction and as a decimal rounded to the nearest hundredth.

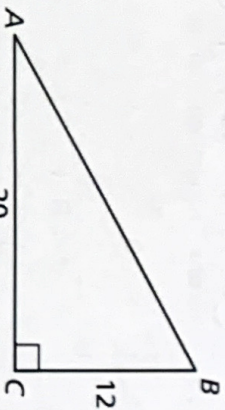
9.  $\sin A = \frac{12}{37} \approx .32$   
 10.  $\cos A = \frac{35}{37} \approx .95$   
 11.  $\sin B$   
 12.  $\cos B$



$\frac{35}{37} = .95$   
  $\frac{12}{37} = .32$

Use the triangle for #13-16.

Find  $\tan A$  and  $\tan B$ . Write each answer as a fraction and as a decimal rounded to the nearest tenth.



13.

$$\tan A$$

$$\tan B$$

$$\frac{12}{20} = \frac{3}{5} = .6$$

$$\frac{20}{12} = \frac{5}{3} = 1.\bar{6}$$

Find the measure of each angle to the nearest degree.

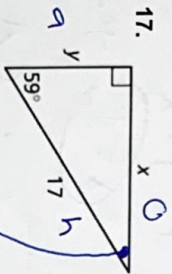
$$15. \ m\angle A$$

$$16. \ m\angle B$$

$$\tan^{-1}\left(\frac{12}{20}\right) = 31^\circ$$

$$\tan^{-1}\left(\frac{20}{12}\right) = 59^\circ$$

Solve the Triangle. Find the values of the missing angles and of  $x$  and  $y$ . Round your answer to the nearest tenth.



$$\frac{\sin(59)}{1} = \frac{x}{17}$$

$$\frac{\cos(59)}{1} = \frac{y}{17}$$

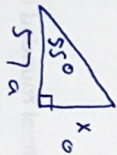
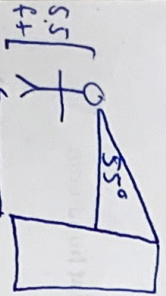
$$180 - 59 - 90 = 31^\circ$$

$$x = 17 \cdot \sin(59)$$

$$y = 17 \cdot \cos(59) = 8.8$$

$$x = 14.6$$

18. You look up at a  $55^\circ$  angle to see the top of a building. The vertical distance from the ground to your eye is 5.5 feet and the distance from you to the building is 57 feet. Estimate the height of the building.

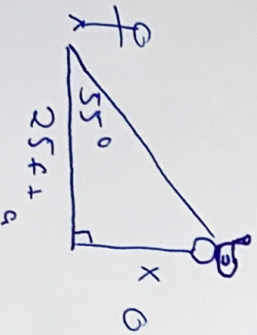


$$\frac{\tan(55)}{1} = \frac{x}{57}$$

$$x = 57 \cdot \tan(55) = 81.4$$

$$81.4 + 5.5 = 86.9 \text{ ft}$$

19. A bird sits on top of a lamppost. The angle made by the lamppost and a line from the feet of the bird to the feet of an observer standing away from the lamppost is  $55^\circ$ . The distance from the lamppost to the observer is 25 feet. Estimate the height of the lamppost?



$$\frac{\tan(55)}{1} = \frac{x}{25}$$

$$25 \cdot \tan(55) = x$$

$$x = 35.7 \text{ ft}$$

Do not forget about the 5.5 feet