

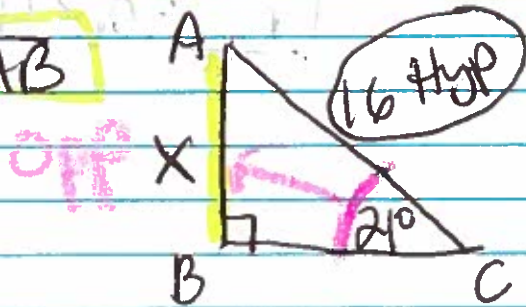
# Finding Missing Sides

Packet p. 2 USING Trig

Day 57

set up a proportion and cross multiply + divide to solve.

① Find AB

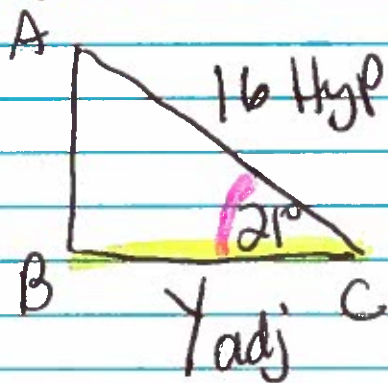


$$\sin 21^\circ = \frac{X \text{ opp}}{16 \text{ hyp}}$$

$$X = \sin(21) \times 16$$

$$\boxed{X = 5.7}$$

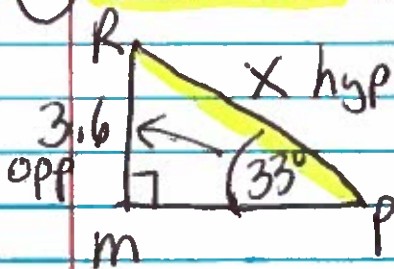
② Find BC



$$\cos 21^\circ = \frac{y \text{ adj}}{16 \text{ hyp}}$$

$$\boxed{y = 14.9}$$

③ Find RP



sin opp/hyp  
cos A/H  
tan R/A

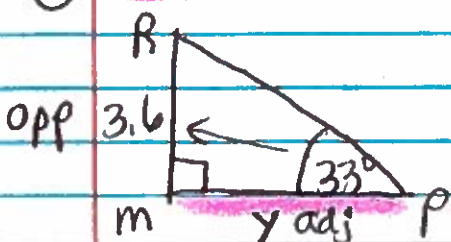
$$\sin 33^\circ = \frac{3.6}{X}$$

$$X \cdot \sin 33^\circ = 3.6$$

$$\frac{X \cdot \sin 33^\circ}{\sin 33^\circ} = \frac{3.6}{\sin 33^\circ}$$

$$\boxed{X = 6.6}$$

④ Find mP

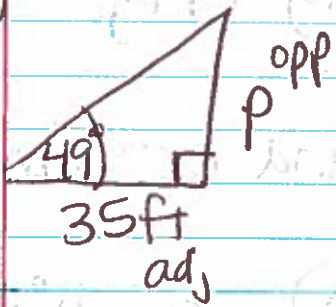


$$\tan 33^\circ = \frac{3.6 \text{ opp}}{y \text{ adj}}$$

$$y = 3.6 \times 1 \div \tan 33$$

$$y = 5.5$$

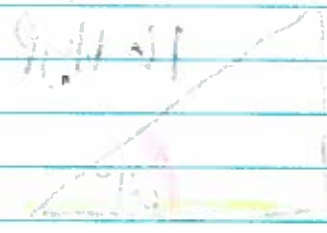
5



$$\tan 49^\circ = \frac{p}{35}$$

$$p = 40.3 \text{ ft}$$

18.20'



18.20'

18.20'

18.20'



18.20'

18.20'

18.20'

18.20'

18.20'



18.20'



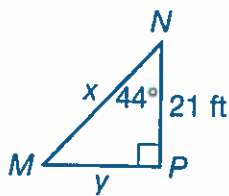
18.20'



18.20'

Use trigonometric ratios to find the lengths  $x$  and  $y$  in each triangle to the nearest foot.

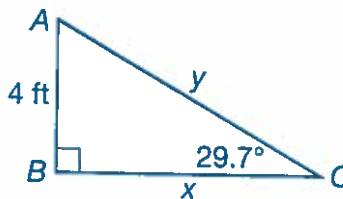
10.



$x \approx$  \_\_\_\_\_

$y \approx$  \_\_\_\_\_

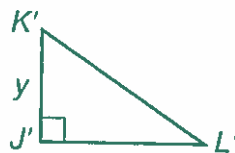
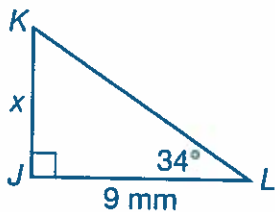
11.



$x \approx$  \_\_\_\_\_

$y \approx$  \_\_\_\_\_

Triangle  $JKL$  was dilated by a scale factor of  $\frac{2}{3}$  and translated to the right to form  $\triangle J'K'L'$ . Use this diagram for questions 12 and 13.



12. How does the tangent of  $\angle L$  compare to the tangent of  $\angle L'$ ? Explain.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

13. Find the value of  $x$  and the value of  $y$  to the nearest millimeter.

\_\_\_\_\_

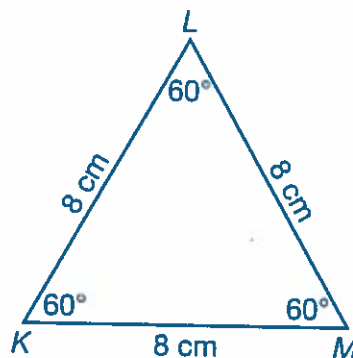
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14. **COMPUTE** The diagonal  $\overline{AC}$  in the square below is 10 inches long. Compute the exact area of square  $ABCD$ .



\_\_\_\_\_

15. **SHOW** Find the exact area of equilateral triangle  $KLM$ .



\_\_\_\_\_

