Geometry
Chapter 12 Practice Test

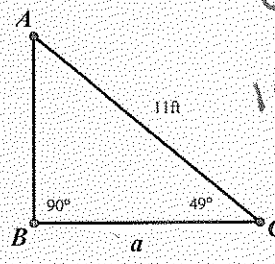
Name: _____
Date: _____ Period: _____

1. Write the **ratio of sides** that the trig function is equal to.

a. $\sin x =$ $\frac{O}{H}$ b. $\cos x =$ $\frac{A}{H}$ c. $\tan x =$ $\frac{O}{A}$

2. Find the missing values. Round to three decimals.

a. Find a.

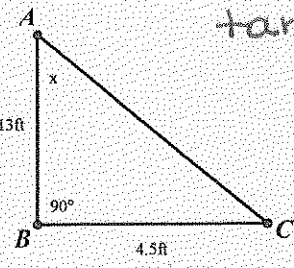


$\cos 49 = \frac{a}{11}$

$11 \cdot \cos 49 = a$

$7.217 \text{ ft} = a$

b. Find x.

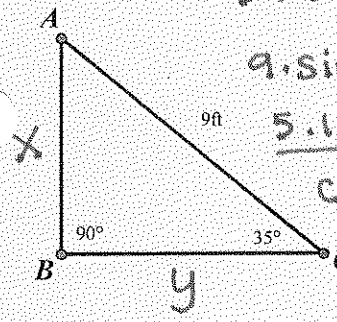


$\tan x = \frac{4.5}{13}$

$x = \tan^{-1}(4.5/13)$

$x = 19.094°$

3. Find the area of the triangle.



$\sin 35 = \frac{x}{9}$

$9 \cdot \sin 35 = x$

$5.162 = x$

$\cos 35 = y/9$

$9 \cdot \cos 35 = y$

$7.372 = y$

$A = \frac{1}{2}bh$

$A = \frac{1}{2}(7.372)(5.162)$

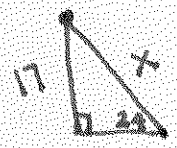
$A = 19.027 \text{ ft}^2$

4. Solve for x. $\sin x = \frac{24}{57}$

$x = \sin^{-1}(24/57)$

$x = 24.901°$

5. An airplane door is 17 feet off the ground and the ramp from the airplane door to the ground has an angle of 24° with the ground. Find the length of the ramp.

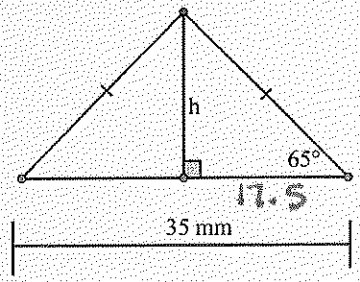


$\sin 24 = \frac{17}{x}$

$x = \frac{17}{\sin 24} = 41.796 \text{ ft}$

6. Find the area of the triangle.

a.



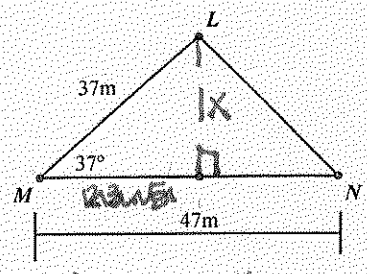
$\tan 65 = \frac{h}{17.5}$

$37.529 = h$

$A = \frac{1}{2}bh = \frac{1}{2}(35)(37.529)$

656.758 mm^2

b.



$\sin 37 = \frac{x}{37}$

$x = 22.267$

$A = \frac{1}{2}(47)(22.267)$

$A = 523.275 \text{ m}^2$