Name: Key Class: _____ Date: _____

Unit 6 Study Guide

Complete each trigonometric ratio using words. Choose from the multiple choice answers below.

A 1. ***sin A =***

A. $\frac{opp}{hyp}$ B. $\frac{adj}{hyp}$ C. $\frac{opp}{adj}$

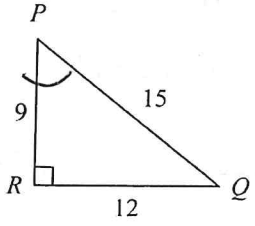
B 2. ***cos A =***

A. $\frac{opp}{hyp}$ B. $\frac{adj}{hyp}$ C. $\frac{opp}{adj}$

C 3. ***tan A =***

A. $\frac{opp}{hyp}$ B. $\frac{adj}{hyp}$ C. $\frac{opp}{adj}$

B 4. Write the sine ratio for $\angle P$.

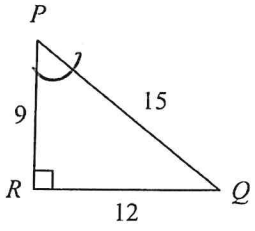


Not drawn to scale

$\frac{12 \div 3}{15 \div 3} = \frac{4}{5}$

A. $\sin P = \frac{3}{5}$ (B.) $\sin P = \frac{4}{5}$ C. $\sin P = \frac{4}{3}$

C 5. Write the cosine ratio for $\angle P$.



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$\frac{9 \div 3}{15 \div 3} = \frac{3}{5}$

A. $\cos P = \frac{4}{5}$ B. $\cos P = \frac{4}{3}$ (C.) $\cos P = \frac{3}{5}$

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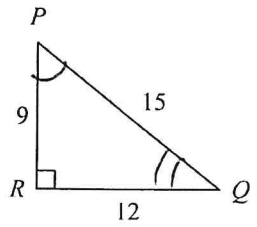
A

6. Write the tangent ratios for $\angle P$ and $\angle Q$.



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tan P

$\frac{12 \div 3}{9 \div 3} = \frac{4}{3}$

$\tan Q = \frac{12 \div 3}{9 \div 3} = \frac{4}{3}$

(A.) $\tan P = \frac{4}{3}$; $\tan Q = \frac{3}{4}$

B. $\tan P = \frac{3}{4}$; $\tan Q = \frac{4}{3}$

C. $\tan P = \frac{4}{5}$; $\tan Q = \frac{5}{4}$

B A

For #7 - 8 Complete the statement.

decimal → degree

2nd sin (0.5)

7. When I am ***finding the measure of*** an ***acute angle*** of a right triangle, I can use _____.

(A.) sin (B.) $\sin^{-1}$ C. both sin and $\sin^{-1}$

A

8. When I am ***finding a side length*** of a right triangle, I can use _____.

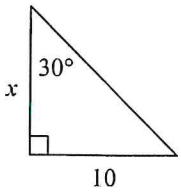
(A.) tan B. $\tan^{-1}$ C. both tan and $\tan^{-1}$

degree to decimal

sin 30° =

Use a trigonometric ratio to find the value of *x*. Round your answer to the nearest tenth.

A 9.



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$\frac{\tan 30^\circ}{1} = \frac{10}{x}$

$\frac{.5774}{1} = \frac{10}{x}$

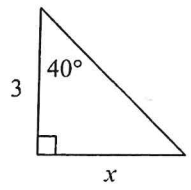
(A.) 17.3 B. 5 C. 5.8

$\frac{.5774x}{.5774} = \frac{10}{.5774}$

17.3

Name: _____

A 10.



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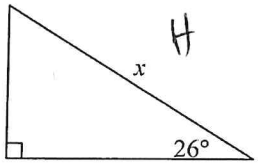
$\frac{\tan 40^\circ = \frac{x}{3}}{1}$ .83 2.5

(A.) 2.5 B. 1.9 C. 3.6

Find the value of x. Round to the nearest tenth.

B 11.



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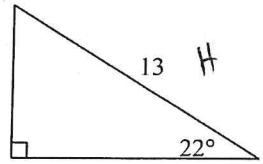
$\frac{\cos 26 = \frac{15}{x}}{1}$ $\frac{.8988 = \frac{15}{x}}{1}$ $x = 16.7$

A. 17.2 (B.) 16.7 C. 13.5

C 12.



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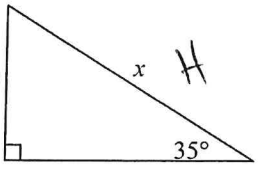
$\frac{\cos 22 = \frac{x}{13}}{1}$ $\frac{.9272 = \frac{x}{13}}{1}$ 12.1

A. 14.1 B. 12.2 (C.) 12.1

A 13.



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$\frac{\sin 35^\circ = \frac{17}{x}}{1}$ $\frac{.5736 = \frac{17}{x}}{1}$ 29.6

(A.) 29.6 B. 29.8 C. 10.2

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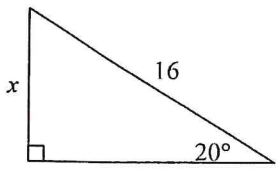
A 14.



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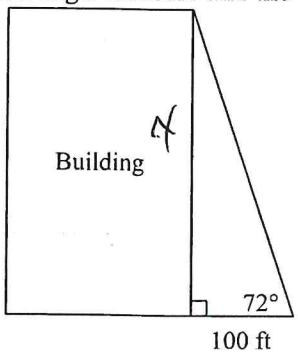
$\frac{\sin 20}{1} = \frac{x}{16}$ 5.5

C (A.) 5.5 B. 5.9 C. 46.8

C 15. The students in Mr. Collin's class used a surveyor's measuring device to find the angle from their location to the top of a building. They also measured their distance from the bottom of the building. The diagram shows the angle measure and the distance. To the nearest foot, find the height of the building.

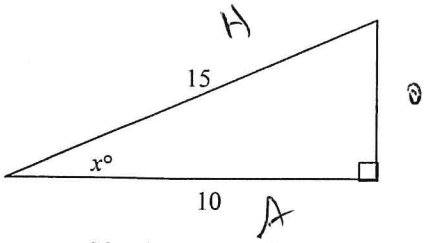


$\frac{\tan 72^\circ}{1} = \frac{O}{A} \quad \frac{x}{100}$ $\frac{3.078}{1} = \frac{x}{100}$ 307.7

A. 2400 ft B. 72 ft (C.) 308 ft

For #16 - 18. Find the value of *x*. Round to the nearest degree.

C 16.



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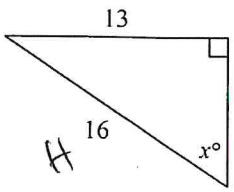
$\cos x = \frac{10}{15}$ $\cos x = .6667$ 48

A. 34 B. 46 (C.) 48

A 17.



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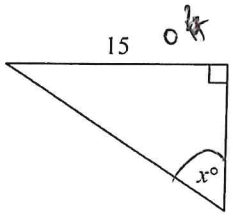
$\sin x = \frac{13}{13}$ 54.3

(A.) 54 B. 55 C. 36

Name: _____

B **Find the value of x to the nearest degree.**

18.



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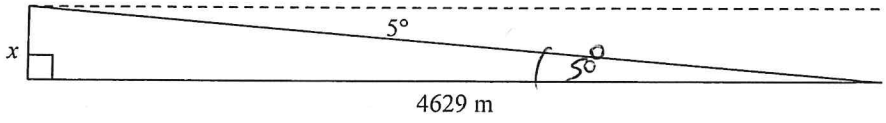
$\tan X = \frac{15}{12}$ 51.

A. 39 B. 51 C. 34

B 19. An airplane pilot over the Pacific sights an atoll at an angle of depression of 5°. At this time, the horizontal distance from the airplane to the atoll is 4629 meters. What is the height of the plane to the nearest meter?



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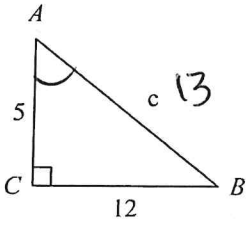
$\frac{\tan 5^\circ}{1} = \frac{N}{4629}$ 404.9

A. $x = 403$ m B. $x = 405$ m C. $x = 4611$ m

A 20. Solve the right triangle. Round answers to the nearest tenth.



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$5^2 + 12^2 = c^2$
$25 + 144 = c^2$
$169 = c^2$ $c = 13$

A. $c = 13$
$m\angle A = 67.4°$
$m\angle B = 22.6°$

B. $c = 13$
$m\angle A = 22.6°$
$m\angle B = 67.4°$

C. $c = 17$
$m\angle A = 65.4°$
$m\angle B = 24.6°$

$\sin A = \frac{12}{13}$ 67°.4

$180 - 90 - 67 = 22.6$