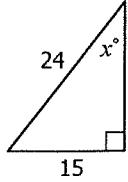


Inverse Trig Ratios & FINDING MISSING ANGLES

If you know the sin, cosine, or tangent ratio of an angle, you can use the inverse function (\sin^{-1} , \cos^{-1} , \tan^{-1}) to find the measure of the angle.

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

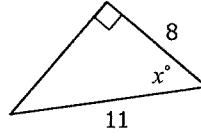
1.



$$\sin x = \frac{15}{24}$$

$$x = \sin^{-1}(15/24)$$

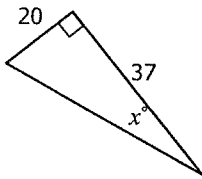
2.



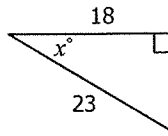
$$\cos x = \frac{8}{11}$$

$$x = \cos^{-1}(8/11)$$

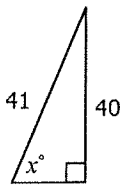
3.



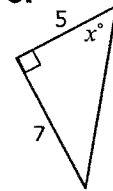
4.



5.



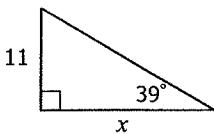
6.



Review: Finding Sides & Angles

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

7.

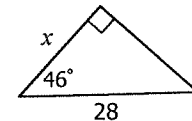


$$\tan 39 = \frac{11}{x}$$

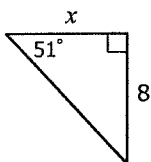
$$x = \frac{11}{\tan 39}$$

$$x = 13.6$$

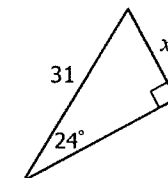
8.



9.



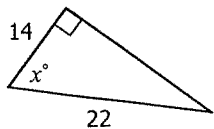
10.



$$\sin 24 = \frac{x}{31}$$

$$31(\sin 24) = x$$

11.

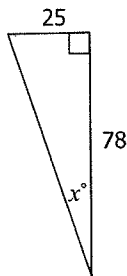


$$\cos X = \frac{14}{22}$$

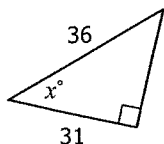
$$X = \cos^{-1}\left(\frac{14}{22}\right)$$

$$X =$$

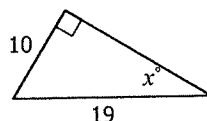
12.



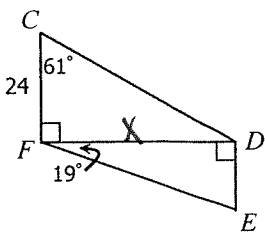
13.



14.



15. Find DE .



$$\tan 61 = \frac{X}{24}$$

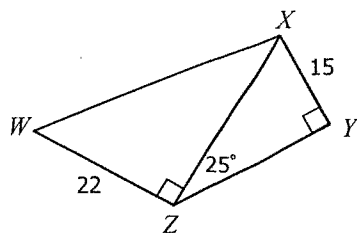
$$24(\tan 61) = X$$

$$X =$$

$$\tan 19 = \frac{y}{43.3}$$

$$43.3(\tan 19) = y$$

16. Find $m\angle W$.



17. A ladder leaning against a wall makes an angle of 75° with the ground. If the foot of the ladder is 6 feet from the base of the wall, what is the length of the ladder?

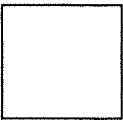
18. Jaden is flying a kite and lets of 275 feet of string. If the kite is 150 feet above ground and assuming the string is straight, what angle does the string make with the ground?

Name: _____

Unit 8: Right Triangles & Trigonometry

Date: _____ Bell: _____

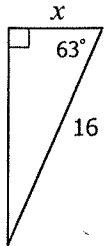
Homework 4: Trigonometry:
Finding Sides and Angles



**** This is a 2-page document! ****

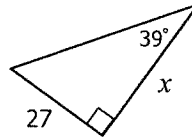
Directions: Solve for x . Round to the nearest tenth.

1.

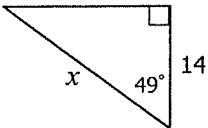


$$\cos 63 = \frac{x}{16}$$
$$16(\cos 63) = x$$

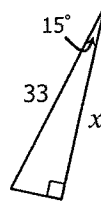
2.



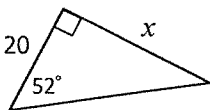
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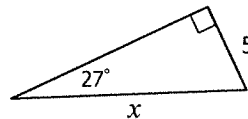
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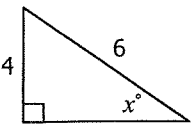
5.



6.

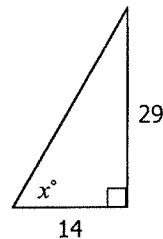


7.

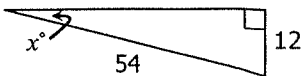


$$\sin x = \frac{4}{6}$$
$$x = \sin^{-1}\left(\frac{4}{6}\right)$$
$$x =$$

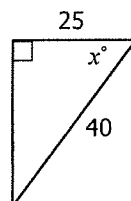
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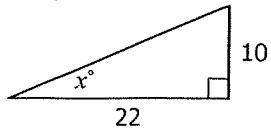
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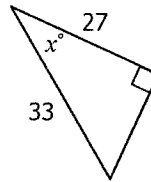
10.



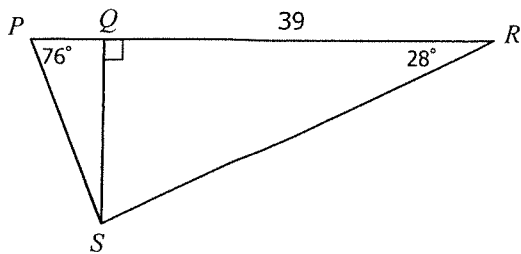
11.



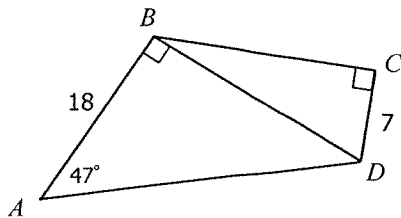
12.



13. Find PS .



14. Find $m\angle CDB$.



15. Max built a skateboarding ramp that is 16 inches high. The angle formed by the ramp and the ground is 21° . What is the length of the ramp?



16. A fireman leaned a 36 foot ladder against a building. If he placed the ladder 7 feet from the base of the building, what angle is formed between the ladder and the ground?

