SLO

Trigonometry SLO Review

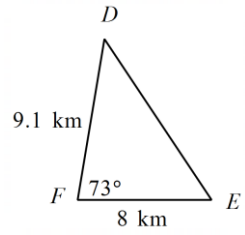
SCORE: /

Name _____ Date _____ Period _____

Find the area of each triangle using the area formula $A = \frac{1}{2}ab\cos C$. Round answers to the nearest hundredths. Show work!

1. A = 52°, b = 14 m, c = 21 m

2.



Use the Law of Sines to solve the triangle (round to the nearest tenths). Show work!

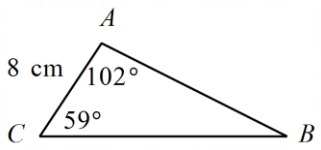
3. A = 50°, B = 62°, a = 4

$m\angle A =$ _____ $a =$ _____

$m\angle B =$ _____ $b =$ _____

$m\angle C =$ _____ $c =$ _____

4.



$m\angle A =$ _____ $a =$ _____

$m\angle B =$ _____ $b =$ _____

$m\angle C =$ _____ $c =$ _____

Use the Law of Cosines to solve each triangle (round to the nearest tenths). Show work!

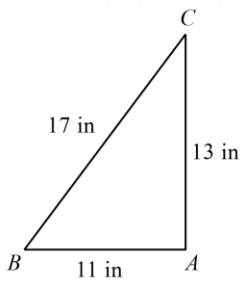
5. B = 35°, a = 43, c = 19

$m\angle A =$ _____ $a =$ _____

$m\angle B =$ _____ $b =$ _____

$m\angle C =$ _____ $c =$ _____

6.



$m\angle A =$ _____ $a =$ _____

$m\angle B =$ _____ $b =$ _____

$m\angle C =$ _____ $c =$ _____

Convert each angle from degrees to radians. Show work!

7. 150°

8. 75°

9. 310°

Convert each angle from radians to degrees. Show work! Round to the nearest tenth when necessary.

10. $\frac{\pi}{5}$

11. $\frac{3\pi}{8}$

12. $\frac{12\pi}{5}$

Find all solutions in the interval $[0, 2\pi)$. (No decimals!)

13. $5 - 4\sin\theta - 9 = 0$

14. $2 = 2\tan\theta$

15. $1 - \frac{1}{4}\cos\theta = \frac{3}{4}$

16. $5 + \sin\theta = \frac{11}{2}$

17. Low tide is at 9:12 am and high tide is at 3:12 pm. The water level varies 48 inches between low and high tide. Write a cosine function to represent the change in water level. Show work!

18. Low tide is at 7:15 am and high tide is at 1:15 pm. The water level varies 52 inches between low and high tide. Write a cosine function to represent the change in water level. Show work!

19. You and a friend hike 1.3 kilometers due west from a campsite. At the same time, two other friends hike 1.7 kilometers at a heading of N17°W from the campsite. To the nearest tenth of a kilometer, how far apart are the two groups? Show work!

20. Two spaceship-lookout stations are 15 miles apart on opposite sides of a spaceship. The angle of elevation from station A to the ship is $35°$ and the angle of elevation from station B is $49°$. Find the altitude of the spaceship. Draw a model, label, and show all work!

Fill in the blanks for each equation.

21. $f(\theta) = 4\sin 5(\theta - \pi) - 7$

Vertical Shift (d): _____

Amplitude (a): _____

Phase Shift (c): _____

b: _____

Period: _____

22. $f(\theta) = 2 - 6\cos\frac{\theta}{3}$

Vertical Shift (d): _____

Amplitude (a): _____

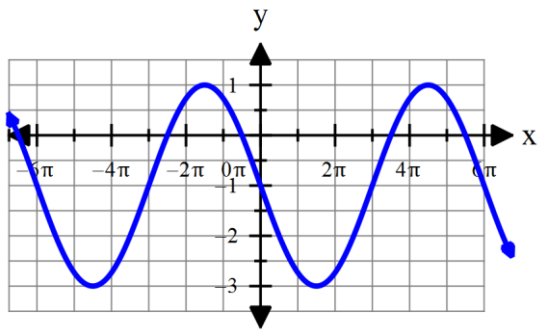
Phase Shift (c): _____

b: _____

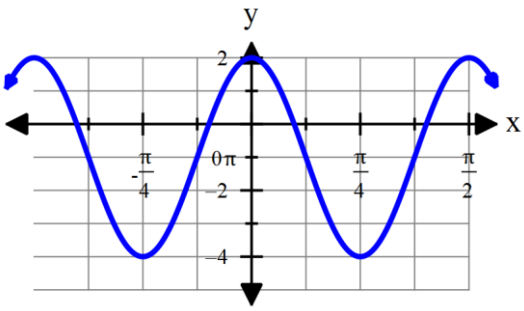
Period: _____

Write an equation for each function graphed below.

23.



24.



If $f(x)=\sin^{-1}(x)$, determine the value of the following in *radians*. Answers must be acute angles, but can be positive or negative.

25. $f\left(\frac{\sqrt{3}}{2}\right)$

26. $f\left(-\frac{\sqrt{2}}{2}\right)$

27. $f\left(-\frac{1}{2}\right)$

28. $f\left(\frac{\sqrt{2}}{2}\right)$