

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Find the angle of smallest possible positive measure that is coterminal with the given angle.

1) -37π

A) π

B) 3π

C) $\frac{\pi}{2}$

D) 2π

Convert the angle to decimal degrees and round to the nearest hundredth of a degree.

2) $241^\circ 24' 42''$

A) 241.41

B) 241.47

C) 241.37

D) 241.42

Convert the angle to degrees, minutes, and seconds.

3) -332.66°

A) $-332^\circ 22' 66''$

B) $-332^\circ 39' 23''$

C) $-332^\circ 39' 66''$

D) $-332^\circ 40' 22''$

Convert the angle to radians. Leave as a multiple of π .

4) 1800°

A) 20π

B) 10π

C) $\frac{19\pi}{2}$

D) $\frac{21\pi}{2}$

Convert the degree measure to radian measure. Use the value of π found on a calculator and round answers to three decimal places.

5) $62^\circ 42' 11''$

A) 2.189

B) 1.089

C) 62.703

D) 1.094

Convert the radian measure to degree measure. Use the value of π found on a calculator and round answers to two decimal places.

6) 3

A) 172.29°

B) 343.78°

C) 171.89°

D) 343.38°

Find the measures of two angles, one positive and one negative, that are coterminal with the given angle.

7) $\frac{5\pi}{9}$

A) $\frac{14\pi}{9}, -\frac{14\pi}{9}$

B) $\frac{13\pi}{9}, -\frac{23\pi}{9}$

C) $\frac{14\pi}{9}, \frac{13\pi}{9}$

D) $\frac{23\pi}{9}, -\frac{13\pi}{9}$

Name the quadrant in which the angle lies.

8) 27.1

A) III

B) II

C) IV

D) I

Find the length of the arc intercepted by the given central angle α in a circle of radius r .

9) $\alpha = \frac{19\pi}{3}, r = 0.686 \text{ mm}$

A) 4.345 mm

B) 0.108 mm

C) 0.34 mm

D) 13.649 mm

Given that α is an angle in standard position whose terminal side contains the given point, provide the exact value of the indicated function.

10) $(5, 9)$; $\cos \alpha$

A) $\frac{9}{\sqrt{106}}$

B) $\frac{\sqrt{106}}{5}$

C) $\frac{5}{9}$

D) $\frac{5}{\sqrt{106}}$

Find the exact value of the following expression without using a calculator.

11) $\tan(-\pi/2)$

A) 0

B) Undefined

C) -1

D) 1

Find the exact value of the expression.

12) $\sin\left(\frac{\pi}{2} - \frac{\pi}{6}\right)$

A) $\frac{\sqrt{3}}{2}$

B) $-\frac{\sqrt{3}}{2}$

C) $\frac{1}{2}$

D) $-\frac{1}{2}$

Use a calculator to find the function value to four decimal places.

13) $\cos\left(\frac{-5\pi}{12}\right)$

A) 0.2588

B) 0.9144

C) 0.9218

D) -0.9659

Solve the problem.

14) Find $\cos(\alpha)$, given that $\sin(\alpha) = \frac{2}{3}$ and $\cos(\alpha) < 0$.

A) $\frac{\sqrt{5}}{3}$

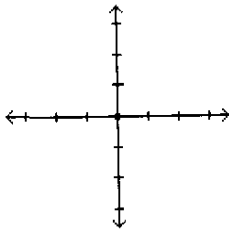
B) $-\frac{\sqrt{5}}{3}$

C) $-\frac{1}{3}$

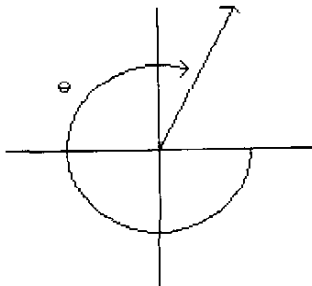
D) $\frac{1}{3}$

Draw the angle having the given radian measure.

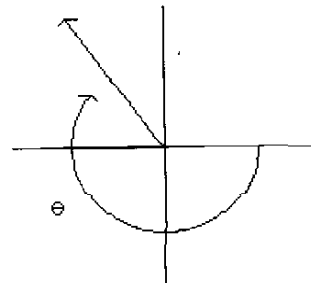
15) -300°



A)



B)



Find the reference angle for the given angle.

16) -448°

A) 88°

B) 176°

C) 92°

D) 2°

Use reference angles to find the exact value of the expression.

17) $\sin(-60^\circ)$

A) $\frac{1}{2}$

B) $\frac{\sqrt{3}}{2}$

C) $-\frac{1}{2}$

D) $-\frac{\sqrt{3}}{2}$

Find the exact value of the expression without using a calculator or table.

18) $\tan^{-1}(1)$

A) 0°

B) 90°

C) 45°

D) 180°

Use a calculator to find the acute angle α that satisfies the equation.

19) $\tan \alpha = 1.8966955$

A) 62.2003331°

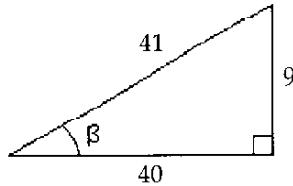
B) 117.799667°

C) 27.7996669°

D) 242.200333°

Evaluate the function requested. Write your answer as a fraction in lowest terms.

20) Find $\cos \beta$.



A) $\frac{9}{41}$

B) $\frac{9}{40}$

C) $\frac{40}{41}$

D) $\frac{41}{40}$

Solve the right triangle with the given sides and angles.

21) $\beta = 32.2^\circ$, $c = 4.1$

A) $a = 3.5$, $\alpha = 57.8^\circ$, $b = 2.2$

B) $a = 2.7$, $\alpha = 57.8^\circ$, $b = 3.1$

C) $a = 3.5$, $\alpha = 57.8^\circ$, $b = 2.7$

D) $a = 2.2$, $\alpha = 57.8^\circ$, $b = 3.5$

Solve the problem.

22) When sitting atop a tree and looking down at his pal Joey, the angle of depression of Mack's line of sight is $47^\circ 29'$. If Joey is known to be standing 19 feet from the base of the tree, how tall is the tree (to the nearest foot)?

A) 27 ft

B) 23 ft

C) 21 ft

D) 25 ft

23) From a boat on the river below a dam, the angle of elevation to the top of the dam is $20^\circ 58'$. If the dam is 2689 feet above the level of the river, how far is the boat from the base of the dam (to the nearest foot)?

A) 7017 ft

B) 6987 ft

C) 7007 ft

D) 6997 ft

24) From a boat on the river below a dam, the angle of elevation to the top of the dam is $35^\circ 46'$. If the dam is 2086 feet above the level of the river, how far is the boat from the base of the dam (to the nearest foot)?

A) 2876 ft

B) 2896 ft

C) 2866 ft

D) 2886 ft

Find the exact value of the trigonometric function.

25) $\sec \frac{3\pi}{4}$

A) $-\frac{\sqrt{3}}{2}$

B) $-\frac{2\sqrt{3}}{3}$

C) $-\sqrt{2}$

D) -1

Determine the amplitude of the given function.

26) $y = -2 \sin \left(x + \frac{\pi}{3} \right)$

A) $-\frac{\pi}{3}$

B) $\frac{\pi}{3}$

C) -2

D) 2

Find the phase shift of the function.

27) $y = -4 \cos \left(x + \frac{\pi}{4} \right)$

A) -4

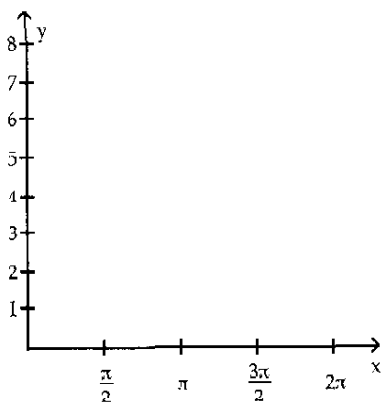
B) $\frac{\pi}{4}$

C) $-\frac{\pi}{4}$

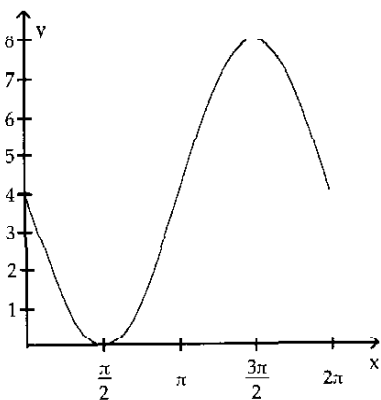
D) 2π

Graph the function over a one-period interval.

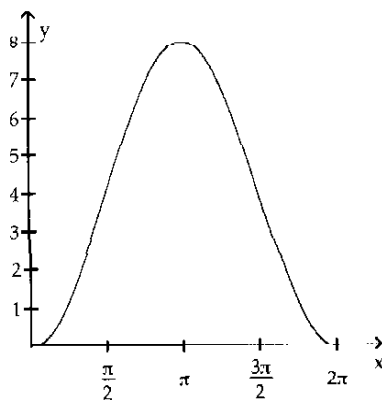
28) $y = 4 \sin(x - \pi) + 4$

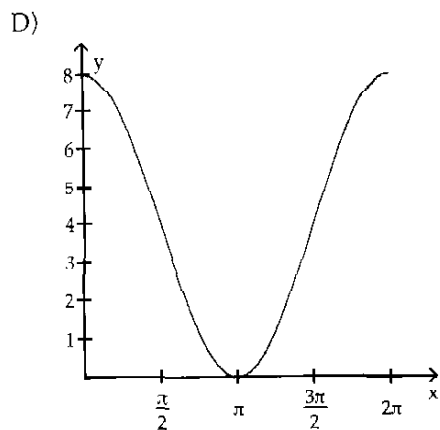
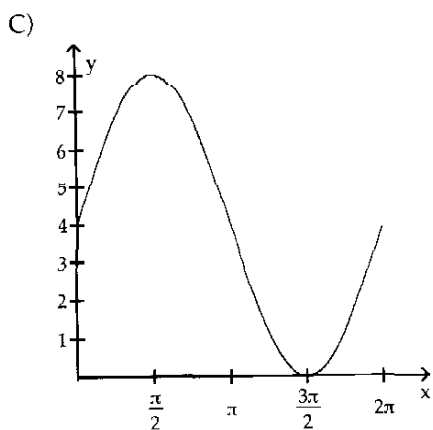


A)



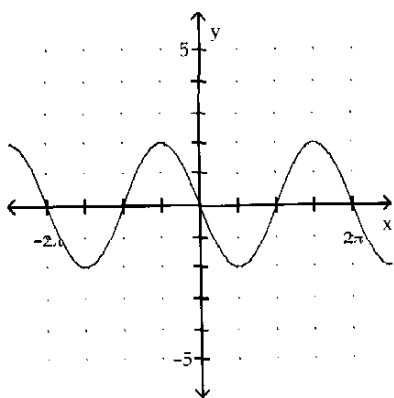
B)





Determine the equation of the function that is graphed.

29)



A) $y = \cos x - 2$

B) $y = -2 \cos x$

C) $y = -2 \sin x$

D) $y = \sin(x - 2)$

Find the amplitude, period, or phase shift as specified.

30) Find the period of $y = -2 \cos\left(5x + \frac{\pi}{2}\right)$.

A) π

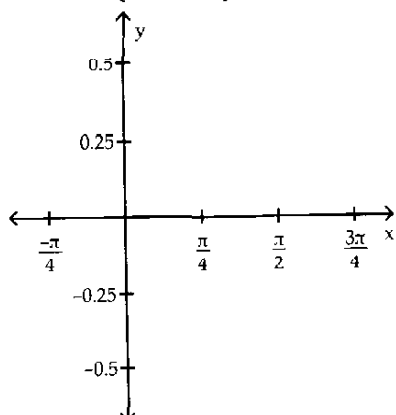
B) 2

C) $\frac{2\pi}{5}$

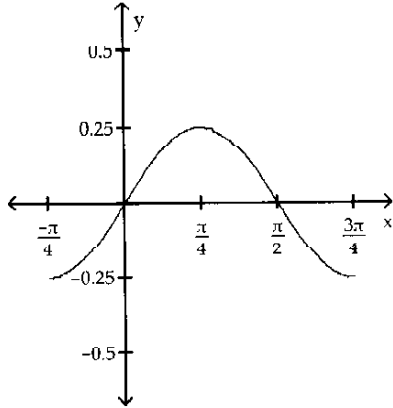
D) $\frac{\pi}{2}$

Graph the function over a one-period interval.

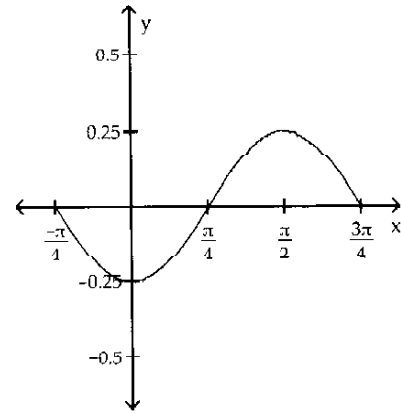
31) $y = \frac{1}{4} \cos\left(2\left[x + \frac{\pi}{4}\right]\right)$



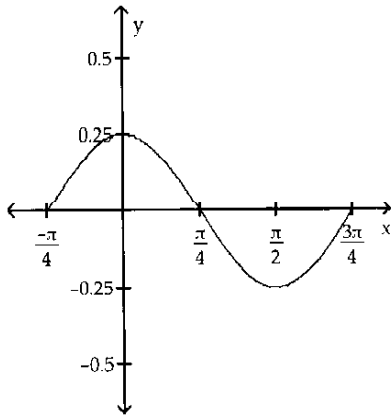
A)



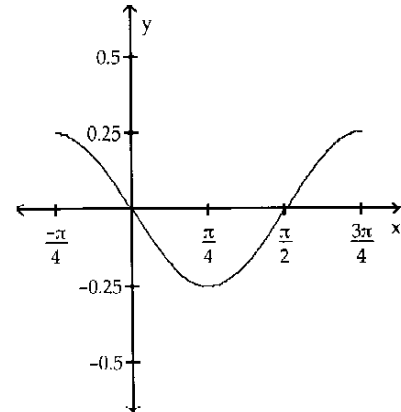
B)



C)

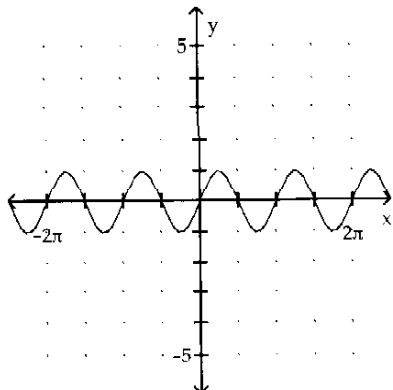


D)



Determine the equation of the function that is graphed.

32)



A) $y = \sin(2x)$

B) $y = \cos(2x)$

C) $y = 2 \sin x$

D) $y = \cos x + 2$

Find the exact value for the expression.

33) $\cot \frac{-11\pi}{6}$

A) $\sqrt{3}$

B) $\frac{\sqrt{3}}{3}$

C) $-\sqrt{3}$

D) $-\frac{\sqrt{3}}{3}$

Use a calculator to find the function value to four decimal places.

34) $\cot(3.16)$

A) -0.9998

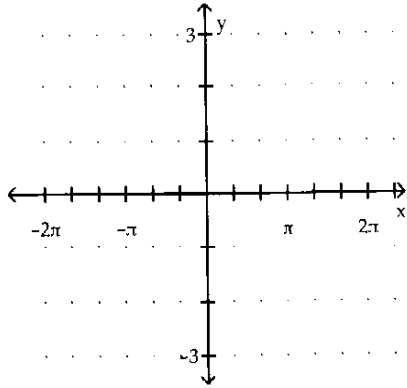
B) -1.0002

C) 0.0184

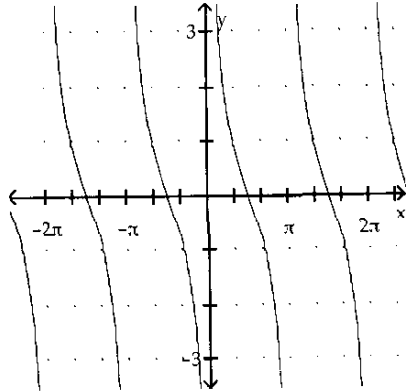
D) 54.3200

Graph the function.

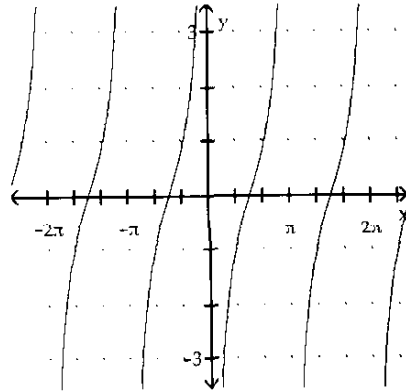
35) $y = \frac{3}{2} \cot(x)$



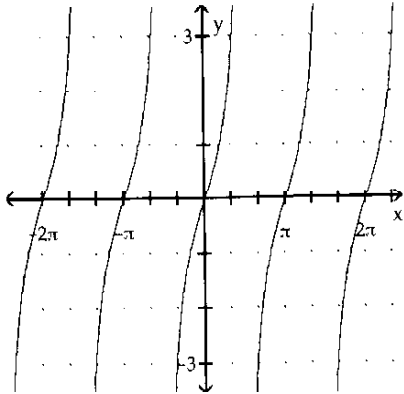
A)



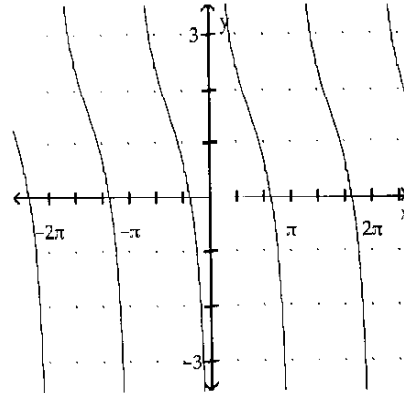
B)



C)



D)



Find the exact value for the expression.

36) $\csc \frac{4\pi}{3}$

A) $-\sqrt{2}$

B) $-\frac{2\sqrt{3}}{3}$

C) -1

D) $-\frac{\sqrt{3}}{2}$

Use a calculator to find the function value to four decimal places.

37) $\csc(5.8)$

A) 0.8855

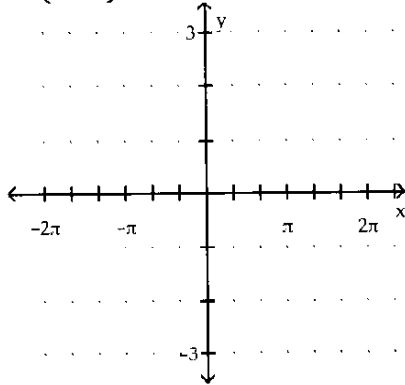
B) -2.1524

C) 1.1293

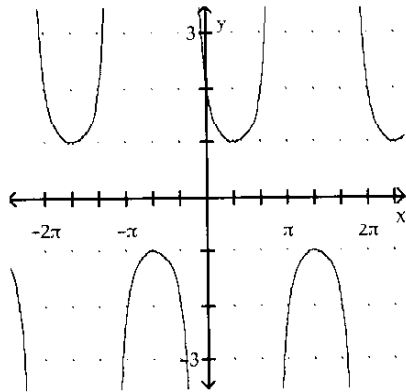
D) -0.4646

Graph the function.

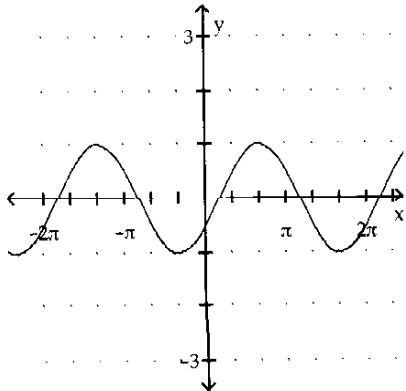
38) $y = \csc\left(x - \frac{\pi}{6}\right)$



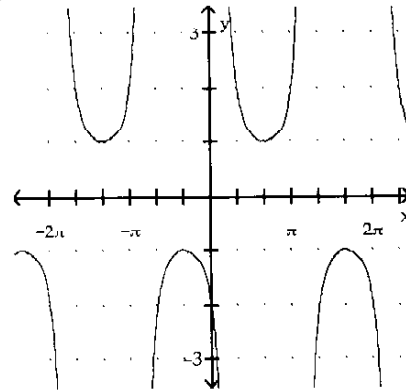
A)



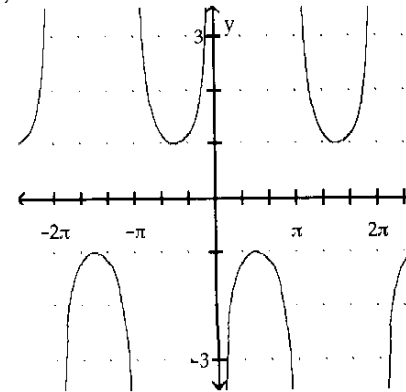
C)



B)



D)



Use the fundamental identities to find an equivalent expression involving only sines and cosines, and then simplify it.

39) $\csc \theta + \tan^2 \theta \csc \theta$

A) $\cos \theta - \sin \theta$

B) $\frac{\sin \theta + \cos \theta}{\sin \theta \cos \theta}$

C) $\frac{1}{\sin \theta \cos \theta}$

D) $\frac{1}{\sin \theta \cos^2 \theta}$

Use the fundamental identities to find the value of the trigonometric function.

40) Find $\cot \alpha$ if $\tan \alpha = \frac{4\sqrt{33}}{33}$ and α is in quadrant III.

A) $\frac{\sqrt{33}}{4}$

B) $\frac{5\sqrt{29}}{29}$

C) $-\frac{\sqrt{11}}{6}$

D) $\frac{4}{5}$

Use the fundamental identities to simplify the expression.

41) $\tan^2\theta \csc^2\theta$

A) $\sin \theta$

B) $\sec^2\theta$

C) $\cos^3\theta$

D) $\tan^2\theta$

Simplify the expression.

42) $\sin^4x - \cos^4x + \cos^2x$

A) \cos^2x

B) \sin^2x

C) 0

D) 1

43) $\frac{\cos(-x)}{\tan(-x)} - \sin x$

A) $\csc x$

B) $-\csc x$

C) $\sec x$

D) $-\sec x$

Multiply and simplify.

44) $(1 + \cot \theta)^2$

A) $\cos^2\theta - \cot \theta$

B) $\sin \theta + \csc \theta$

C) $1 + 2 \sin^2\theta$

D) $\csc^2\theta + 2 \cot \theta$

Factor and simplify the expression.

45) $\sec^4x + \sec^2x \tan^2x - 2 \tan^4x$

A) $\tan^2x - 1$

B) $4 \sec^2x$

C) $\sec^2x + 2$

D) $3 \sec^2x - 2$

Find the exact value by using a sum or difference identity.

46) $\cos(-10^\circ) \cos 80^\circ + \sin(-10^\circ) \sin 80^\circ$

A) 1

B) $\frac{1}{2}$

C) 0

D) -1

Write in terms of the cofunction of a complementary angle.

47) $\sin \frac{\pi}{13}$

A) $\csc \frac{11\pi}{26}$

B) $\cos \frac{11\pi}{26}$

C) $\cos \frac{12\pi}{13}$

D) $\csc \frac{12\pi}{13}$

Find the exact value by using a sum or difference identity.

48) $\sin \frac{11\pi}{12}$

A) $\frac{\sqrt{2}(\sqrt{3}-1)}{4}$

B) $\frac{-\sqrt{2}(\sqrt{3}+1)}{4}$

C) $\frac{\sqrt{2}(\sqrt{3}+1)}{4}$

D) $\frac{-\sqrt{2}(\sqrt{3}-1)}{4}$

Use trigonometric identities to find the exact value.

49) $\frac{\tan 25^\circ + \tan 5^\circ}{1 - \tan 25^\circ \tan 5^\circ}$

A) $\frac{\sqrt{3}}{3}$

B) $\sqrt{3}$

C) 2

D) $\frac{1}{2}$

Use a sum or difference identity to find the exact value.

$$50) \frac{\tan \frac{7\pi}{24} - \tan \frac{\pi}{8}}{1 + \tan \frac{7\pi}{24} \tan \frac{\pi}{8}}$$

- A) $\sqrt{3}$ B) $\frac{\sqrt{3}}{3}$ C) $\frac{\sqrt{3}}{2}$ D) $\frac{1}{2}$

Find the exact value using a double-angle identity.

$$51) \tan(300^\circ)$$

- A) 0 B) $\frac{1}{2}$ C) $-\frac{\sqrt{3}}{2}$ D) $-\sqrt{3}$

Find the exact value by using a half-angle identity

$$52) \sin\left(\frac{5\pi}{12}\right)$$

- A) $\frac{1}{2}\sqrt{2-\sqrt{3}}$ B) $\sqrt{2-\sqrt{3}}$ C) $\frac{1}{2}\sqrt{2+\sqrt{3}}$ D) $\sqrt{2+\sqrt{3}}$

Use an identity to write the expression as a single trigonometric function or as a single number.

$$53) \frac{2 \tan 30^\circ}{1 - \tan^2 30^\circ}$$

- A) $\sqrt{3}$ B) $\frac{\sqrt{2}}{2}$ C) $\frac{\sqrt{3}}{3}$ D) $\frac{\sqrt{2}}{4}$

$$54) \frac{\sin 82^\circ}{1 - \cos 82^\circ}$$

- A) $\sin 41^\circ$ B) $\cos 41^\circ$ C) $\cot 41^\circ$ D) $\tan 41^\circ$

Use a product-to-sum identity to rewrite the expression.

$$55) \sin \frac{\pi}{6} \sin \frac{\pi}{12}$$

- A) $0.5 \left(\cos \left(\frac{-6\pi}{72} \right) - \cos \left(\frac{18\pi}{72} \right) \right)$ B) $0.5 \left(\cos \left(\frac{6\pi}{72} \right) - \cos \left(\frac{18\pi}{72} \right) \right)$
 C) $0.5 \left(\sin \left(\frac{18\pi}{72} \right) + \sin \left(\frac{6\pi}{72} \right) \right)$ D) $0.5 \left(\cos \left(\frac{18\pi}{72} \right) + \cos \left(\frac{-6\pi}{72} \right) \right)$

Find the exact value of the product.

$$56) \cos\left(\frac{\pi}{12}\right) \cos\left(\frac{\pi}{4}\right)$$

- A) $\frac{\sqrt{2}-\sqrt{3}}{4}$ B) $\frac{\sqrt{3}-\sqrt{2}}{4}$ C) $\frac{\sqrt{3}+1}{4}$ D) $\frac{\sqrt{2}+\sqrt{3}}{4}$

Use a sum-to-product identity to rewrite the expression.

$$57) \cos 2^\circ - \cos 21^\circ$$

- A) $-2(\sin(11.5^\circ) \sin(-9.5^\circ))$ B) $-2(\sin(11.5^\circ) \cos(-9.5^\circ))$
 C) $-2(\cos(11.5^\circ) \cos(-9.5^\circ))$ D) $-2(\cos(11.5^\circ) \sin(-9.5^\circ))$

Find the exact value of the sum.

58) $\sin 15^\circ - \sin 105^\circ$

A) $-\frac{\sqrt{6}}{2}$

B) $\frac{\sqrt{3}}{2}$

C) $-\frac{\sqrt{2}}{2}$

D) $-\frac{1}{2}$

Find the exact value of the expression without using a calculator or table.

59) $\sin^{-1}(-0.5)$

A) $\frac{\pi}{6}$

B) $-\frac{\pi}{3}$

C) $\frac{\pi}{3}$

D) $-\frac{\pi}{6}$

Find the exact value of the expression in degrees without using a calculator or table.

60) $\arcsin\left(-\frac{1}{2}\right)$

A) 30°

B) 300°

C) 315°

D) -30°

Find the approximate value of the expression with a calculator. Round your answer to three decimal places.

61) $\sec^{-1}(2.3288)$

A) 5.156

B) 1.127

C) 4.269

D) 1.141

Find the exact value of the composition.

62) $\cos\left(\frac{1}{2} \arcsin\left(\frac{5}{13}\right)\right)$

A) $\frac{3\sqrt{13}}{13}$

B) $\frac{\sqrt{26}}{26}$

C) $\frac{5\sqrt{26}}{26}$

D) $\frac{2\sqrt{13}}{13}$

Use a calculator to find the approximate value of the composition. Round your answer to four decimal places. The expression may be undefined.

63) $\sec(\arctan(4.839))$

A) 0.2024

B) 4.9412

C) 1.0000

D) 0.4999

Find the acute angle θ , to the nearest hundredth of a degree, for the given function value.

64) $\sec \theta = 6.832$

A) -8.33°

B) 8.42°

C) 8.33°

D) 81.58°

Name the quadrant in which the angle lies.

65) -299°

A) IV

B) II

C) III

D) I

Find all angles in degrees that satisfy the equation. Round approximate answers to the nearest tenth of a degree.

66) $\cos \alpha = -0.34$

A) $\{\alpha \mid \alpha = -19.9^\circ + k360^\circ \text{ or } \alpha = 160.1^\circ + k360^\circ\}$

B) $\{\alpha \mid \alpha = 109.9^\circ + k360^\circ \text{ or } \alpha = 250.1^\circ + k360^\circ\}$

C) $\{\alpha \mid \alpha = 109.9^\circ + k360^\circ \text{ or } \alpha = 289.9^\circ + k360^\circ\}$

D) $\{\alpha \mid \alpha = -19.9^\circ + k360^\circ \text{ or } \alpha = 199.9^\circ + k360^\circ\}$

Find all real numbers that satisfy the equation.

67) $\sqrt{3} \sec 2x = 2$

A) $\left\{ x \mid x = \frac{\pi}{12} + k\pi \right\}$

C) $\left\{ x \mid x = \frac{\pi}{12} + k\pi \text{ or } x = \frac{11\pi}{12} + k\pi \right\}$

B) $\left\{ x \mid x = \frac{5\pi}{12} + k\pi \text{ or } x = \frac{7\pi}{12} + k\pi \right\}$

D) $\left\{ x \mid x = \frac{\pi}{12} + 2k\pi \text{ or } x = \frac{11\pi}{12} + 2k\pi \right\}$

Find all values of θ in $[0^\circ, 360^\circ)$ that satisfy the equation.

68) $\cos \theta = -\frac{\sqrt{3}}{2}$

A) $\{60^\circ, 120^\circ\}$

B) $\{60^\circ, 300^\circ\}$

C) $\{210^\circ, 330^\circ\}$

D) $\{150^\circ, 210^\circ\}$

Find all angles in degrees that satisfy the equation. Round approximate answers to the nearest tenth of a degree.

69) $\cos 2\alpha = 0.117$

A) $\{\alpha \mid \alpha = 6.7^\circ + k180^\circ \text{ or } \alpha = 83.3^\circ + k180^\circ\}$

B) $\{\alpha \mid \alpha = 41.6^\circ + k180^\circ \text{ or } \alpha = 138.4^\circ + k180^\circ\}$

C) $\{\alpha \mid \alpha = 41.6^\circ + k180^\circ \text{ or } \alpha = 131.6^\circ + k180^\circ\}$

D) $\{\alpha \mid \alpha = 6.7^\circ + k180^\circ \text{ or } \alpha = 96.7^\circ + k180^\circ\}$

Find all real numbers in the interval $(0, 2\pi)$ that satisfy the equation.

70) $\csc^5 x - 4 \csc x = 0$

A) $\left\{ \frac{\pi}{4}, \frac{5\pi}{4}, \frac{\pi}{3}, \frac{5\pi}{3} \right\}$

B) $\left\{ \frac{\pi}{4}, \frac{3\pi}{4}, \frac{\pi}{6}, \frac{5\pi}{6} \right\}$

C) $\left\{ \frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4} \right\}$

D) $\left\{ \frac{\pi}{4}, \frac{3\pi}{4}, \frac{\pi}{3}, \frac{5\pi}{6} \right\}$

Find all values of x in the interval $[0^\circ, 360^\circ)$ that satisfy the equation. Round approximate answers to the nearest tenth of a degree.

71) $3 \cos^2 x + 2 \cos x - 1$

A) $\{49.8^\circ, 130.2^\circ, 229.8^\circ, 310.2^\circ\}$

B) $\{70.5^\circ, 180^\circ, 289.5^\circ\}$

C) $\{51.8^\circ, 128.2^\circ\}$

D) $\{103.2^\circ, 145.2^\circ, 283.2^\circ, 325.2^\circ\}$

Solve the triangle with the given parts.

72) $\alpha = 24.5^\circ, \beta = 29.3^\circ, a = 44.1$

A) $\gamma = 127.2^\circ, b = 52.1, c = 85.9$

B) $\gamma = 127.2^\circ, b = 85.9, c = 52.1$

C) $\gamma = 126.2^\circ, b = 85.9, c = 52.1$

D) $\gamma = 126.2^\circ, b = 52.1, c = 85.9$

Determine the number of triangles with the given parts.

73) $b = 24, c = 29, \beta = 40^\circ$

A) 3

B) 2

C) 1

D) 0

Solve the triangle. If there is more than one triangle with the given parts, give both solutions.

74) $\beta = 10.5^\circ$

$b = 15.24$

$a = 20.91$

A) $\alpha = 14.5^\circ, \gamma = 155.0^\circ, c = 35.3$

B) $\alpha = 165.5^\circ, \gamma = 4.0^\circ, c = 5.80$

C) No solution

D) $\alpha = 14.5^\circ, \gamma = 155.0^\circ, c = 35.3;$
 $\alpha' = 165.5^\circ, \gamma' = 4.0^\circ, c' = 5.80$

Solve the problem.

75) A guy wire to a tower makes a 70° angle with level ground. At a point 31 ft farther from the tower than the wire but on the same side of the base as the wire, the angle of elevation to the top of the pole is 32° . Find the wire length (to the nearest foot).

- A) 27 ft B) 59 ft C) 32 ft D) 54 ft

Solve the triangle with the given information.

76) $\gamma = 113.1^\circ$
 $a = 4.90$
 $b = 10.72$

- A) $c = 16.3, \alpha = 21.7^\circ, \beta = 45.2^\circ$ B) No solution
C) $c = 19.2, \alpha = 17.7^\circ, \beta = 49.2^\circ$ D) $c = 13.4, \alpha = 19.7^\circ, \beta = 47.2^\circ$

Determine the number of triangles with the given parts.

77) $a = 16, c = 6, \beta = 4^\circ$

- A) 0 B) 1 C) 2

Solve the problem.

78) A building has a ramp to its front doors to accommodate the handicapped. If the distance from the building to the end of the ramp is 21 feet and the height from the ground to the front doors is 5 feet, how long is the ramp? (Round to the nearest tenth.)

- A) 20.4 ft B) 21.6 ft C) 7.1 ft D) 5.1 ft

79) Two boats leave a dock together, each traveling in a straight line. One boat travels at 30 mph and the other at 29 mph. If the angle between their courses measures 63.5° , how far apart are they after 25 minutes? Give your answer in miles and round your answer to the nearest tenth.

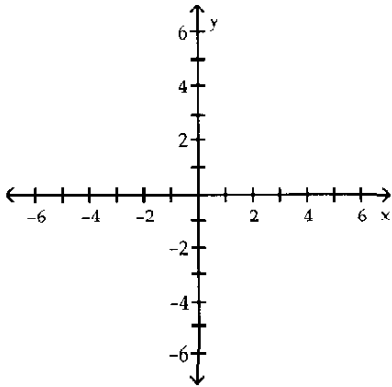
- A) 15.3 miles B) 12.9 miles C) 20.9 miles D) 19.2 miles

80) An airplane leaves an airport and flies due west 170 miles and then 250 miles in the direction $S 69.67^\circ W$. How far is the plane from the airport at this time (to the nearest mile)?

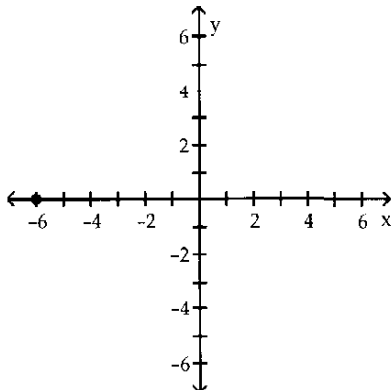
- A) 404 mi B) 382 mi C) 372 mi D) 414 mi

Graph the complex number.

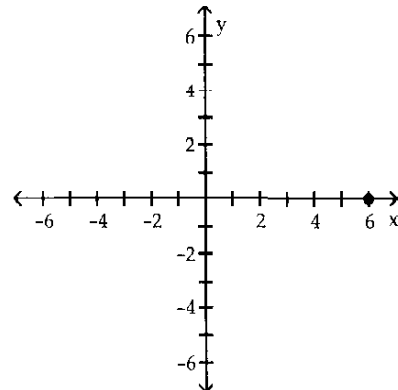
81) $-6i$



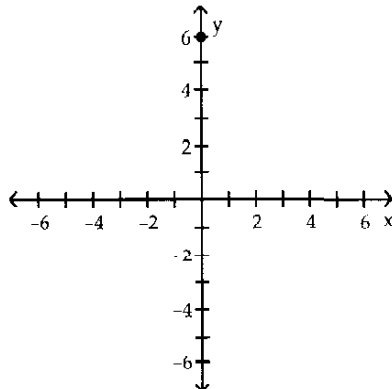
A)



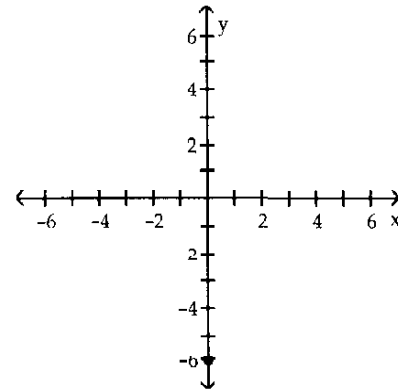
B)



C)



D)



Find the absolute value of the complex number. Round your answer to two decimal places, if necessary.

82) 5

A) 2.5

B) 25

C) 5

D) 2.24

Write the complex number in trigonometric form, using degree measure for the argument.

83) $-0.56 - 9.96i$

A) $10.0(\cos 176.8^\circ + i \sin 176.8^\circ)$

B) $10.0(\cos 356.8^\circ + i \sin 356.8^\circ)$

C) $10.0(\cos 266.8^\circ + i \sin 266.8^\circ)$

D) $10.0(\cos 86.8^\circ + i \sin 86.8^\circ)$

Write the complex number in the form $a + bi$.

84) $3(\cos 270^\circ + i \sin 270^\circ)$

A) -3

B) $-3i$

C) 3

D) $3i$

Perform the indicated operation. Write the answer in the form $a + bi$.

85) $\frac{5(\cos 200^\circ + i \sin 200^\circ)}{4(\cos 50^\circ + i \sin 50^\circ)}$

A) $-\frac{5\sqrt{3}}{8} + \frac{5}{8}i$

B) $-10 + 10\sqrt{3}i$

C) $-2 + 2\sqrt{3}i$

D) $-\frac{1}{2} + \frac{\sqrt{3}}{2}i$

Find the product or quotient, using trigonometric form. Write the answer in the form $a + bi$.

86) $(9 + 4i)(8 + 7i)$

A) $28i^2 + 95i + 72$

B) $100 - 31i$

C) $44 - 95i$

D) $44 + 95i$

Find the product of the given complex number and its conjugate.

87) $5\left(\cos \frac{\pi}{6} + i \sin \frac{\pi}{6}\right)$

A) $5\left(\cos \frac{\pi}{6} + i \sin \left(-\frac{\pi}{6}\right)\right)$

B) 5

C) $5\left(\cos^2 \frac{\pi}{6} - \sin^2 \frac{\pi}{6}\right)$

D) 25

Answer Key

Testname: FINREVA.TST

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) A
- 2) A
- 3) B
- 4) B
- 5) D
- 6) C
- 7) D
- 8) B
- 9) D
- 10) D
- 11) B
- 12) A
- 13) A
- 14) B
- 15) A
- 16) A
- 17) D
- 18) C
- 19) A
- 20) C
- 21) A
- 22) C
- 23) A
- 24) B
- 25) C
- 26) D
- 27) C
- 28) A
- 29) C
- 30) C
- 31) D
- 32) A
- 33) A
- 34) D
- 35) A
- 36) B
- 37) B
- 38) B
- 39) D
- 40) A
- 41) B
- 42) B
- 43) B
- 44) D
- 45) D
- 46) C
- 47) B
- 48) A

Answer Key

Testname: FINREVA.TST

- 49) A
- 50) B
- 51) D
- 52) C
- 53) A
- 54) C
- 55) B
- 56) C
- 57) A
- 58) C
- 59) D
- 60) D
- 61) B
- 62) C
- 63) B
- 64) D
- 65) D
- 66) B
- 67) C
- 68) D
- 69) B
- 70) C
- 71) B
- 72) D
- 73) B
- 74) D
- 75) A
- 76) D
- 77) B
- 78) B
- 79) B
- 80) D
- 81) D
- 82) C
- 83) C
- 84) B
- 85) A
- 86) D
- 87) D