

Solve the equation on the interval  $0 \leq \theta < 2\pi$ .

1)  $2 \cos \theta + 3 = 2$

A)  $\left\{ \frac{2\pi}{3}, \frac{5\pi}{3} \right\}$

B)  $\left\{ \frac{2\pi}{3}, \frac{4\pi}{3} \right\}$

C)  $\left\{ \frac{5\pi}{6}, \frac{11\pi}{6} \right\}$

D)  $\left\{ \frac{5\pi}{6}, \frac{7\pi}{6} \right\}$

1) \_\_\_\_\_

2)  $4 \sin^2 \theta = 1$

A)  $\left\{ \frac{\pi}{3}, \frac{2\pi}{3}, \frac{4\pi}{3}, \frac{5\pi}{3} \right\}$

B)  $\left\{ \frac{\pi}{6}, \frac{5\pi}{6}, \frac{7\pi}{6}, \frac{11\pi}{6} \right\}$

C)  $\left\{ \frac{\pi}{3}, \frac{2\pi}{3} \right\}$

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

2) \_\_\_\_\_

3)  $\tan^2 \theta = 3$

A)  $\left\{ \frac{\pi}{6}, \frac{5\pi}{6}, \frac{7\pi}{6}, \frac{11\pi}{6} \right\}$

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

C)  $\left\{ \frac{\pi}{6}, \frac{7\pi}{6} \right\}$

D)  $\left\{ \frac{\pi}{3}, \frac{2\pi}{3}, \frac{4\pi}{3}, \frac{5\pi}{3} \right\}$

3) \_\_\_\_\_

4)  $2 \cos^2 \theta - 1 = 0$

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

B)  $\left\{ \frac{\pi}{4}, \frac{7\pi}{4} \right\}$

C)  $\left\{ \frac{\pi}{3}, \frac{2\pi}{3}, \frac{4\pi}{3}, \frac{5\pi}{3} \right\}$

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

4) \_\_\_\_\_

Solve the equation on the interval  $[0, 2\pi)$ .

5)  $(\tan x + 1)(\sin x + 1) = 0$

A)  $\frac{\pi}{2}, \frac{3\pi}{4}, \frac{7\pi}{4}$

B)  $0, \frac{3\pi}{4}, \frac{7\pi}{4}$

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

D)  $\frac{3\pi}{4}, \frac{3\pi}{2}, \frac{7\pi}{4}$

5) \_\_\_\_\_

Solve the equation on the interval  $[0, 2\pi)$ .

6)  $\cos 2x = \frac{\sqrt{2}}{2}$

A)  $0, \frac{2\pi}{3}, \pi, \frac{4\pi}{3}$

B)  $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$

C)  $\frac{\pi}{8}, \frac{7\pi}{8}, \frac{9\pi}{8}, \frac{15\pi}{8}$

D) no solution

6) \_\_\_\_\_

Solve the triangle. Round lengths to the nearest tenth and angle measures to the nearest degree.

7)  $A = 23^\circ$   $B = 33^\circ$   $a = 49.5$

A)  $C = 125^\circ$ ,  $b = 105$ ,  $c = 69$

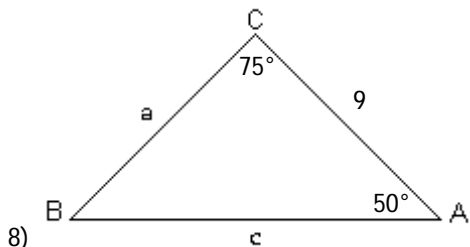
B)  $C = 124^\circ$ ,  $b = 69$ ,  $c = 105$

C)  $C = 125^\circ$ ,  $b = 69$ ,  $c = 105$

D)  $C = 124^\circ$ ,  $b = 105$ ,  $c = 69$

7) \_\_\_\_\_

Solve the triangle.



- A)  $B = 60^\circ$ ,  $a = 8.42$ ,  $c = 10.61$   
 C)  $B = 55^\circ$ ,  $a = 10.61$ ,  $c = 8.42$

- B)  $B = 55^\circ$ ,  $a = 8.42$ ,  $c = 10.61$   
 D)  $B = 50^\circ$ ,  $a = 10.61$ ,  $c = 8.42$

8) \_\_\_\_\_

Solve the triangle. Round lengths to the nearest tenth and angle measures to the nearest degree.

9)  $A = 26^\circ$ ,  $B = 51^\circ$ ,  $c = 23$

- A)  $C = 103^\circ$ ,  $a = 51.1$ ,  $b = 28.8$   
 C)  $C = 103^\circ$ ,  $a = 10.3$ ,  $b = 18.3$

- B)  $C = 97^\circ$ ,  $a = 10.2$ ,  $b = 18$   
 D)  $C = 103^\circ$ ,  $a = 18.3$ ,  $b = 10.3$

9) \_\_\_\_\_

Find the area of the triangle having the given measurements. Round to the nearest square unit.

10)  $A = 22^\circ$ ,  $b = 13$  meters,  $c = 6$  meters

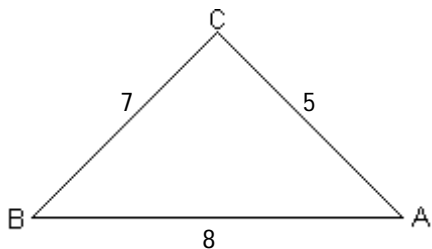
- A) 32 square meters  
 C) 15 square meters

- B) 30 square meters  
 D) 8 square meters

10) \_\_\_\_\_

Solve the triangle. Round lengths to the nearest tenth and angle measures to the nearest degree.

11)

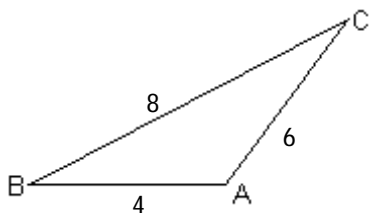


- A)  $A = 60^\circ$ ,  $B = 38^\circ$ ,  $C = 82^\circ$   
 C)  $A = 38^\circ$ ,  $B = 60^\circ$ ,  $C = 82^\circ$

- B)  $A = 60^\circ$ ,  $B = 82^\circ$ ,  $C = 38^\circ$   
 D)  $A = 38^\circ$ ,  $B = 82^\circ$ ,  $C = 60^\circ$

11) \_\_\_\_\_

12)



- A)  $A = 104^\circ$ ,  $B = 47^\circ$ ,  $C = 29^\circ$   
 C)  $A = 47^\circ$ ,  $B = 29^\circ$ ,  $C = 104^\circ$

- B)  $A = 104^\circ$ ,  $B = 29^\circ$ ,  $C = 47^\circ$   
 D)  $A = 47^\circ$ ,  $B = 104^\circ$ ,  $C = 29^\circ$

12) \_\_\_\_\_

13)  $a = 7$ ,  $b = 11$ ,  $C = 117^\circ$

- A)  $c = 21.3$ ,  $A = 22^\circ$ ,  $B = 41^\circ$   
 C)  $c = 18.4$ ,  $A = 26^\circ$ ,  $B = 37^\circ$

- B)  $c = 15.5$ ,  $A = 24^\circ$ ,  $B = 39^\circ$   
 D) no triangle

13) \_\_\_\_\_

14)  $a = 6, c = 8, B = 111^\circ$

A)  $b = 11.6, A = 29^\circ, C = 40^\circ$

C)  $b = 14.5, A = 31^\circ, C = 38^\circ$

B)  $b = 17.4, A = 27^\circ, C = 42^\circ$

D) no triangle

14) \_\_\_\_\_

Solve the problem.

15) A ladder leans against a building that has a wall slanting away from the ladder at an angle of  $96^\circ$  with the ground. If the bottom of the ladder is 23 feet from the base of the wall and it reaches a point 52 feet up the wall, how tall is the ladder to the nearest foot?

A) 60 ft

B) 61 ft

C) 58 ft

D) 59 ft

15) \_\_\_\_\_

16) Two points A and B are on opposite sides of a building. A surveyor selects a third point C to place a transit. Point C is 45 feet from point A and 74 feet from point B. The angle ACB is  $58^\circ$ . How far apart are points A and B?

A) 75.7 ft

B) 63 ft

C) 105 ft

D) 96.3 ft

16) \_\_\_\_\_

17) Island A is 150 miles from island B. A ship captain travels 250 miles from island A and then finds that he is off course and 160 miles from island B. What angle, in degrees, must he turn through to head straight for island B? Round the answer to two decimal places. (Hint: Be careful to properly identify which angle is the turning angle.)

A)  $110.17^\circ$

B)  $34.92^\circ$

C)  $55.08^\circ$

D)  $145.08^\circ$

17) \_\_\_\_\_

Answer Key

Testname: REVIEW04

- 1) B
- 2) B
- 3) D
- 4) A
- 5) D
- 6) C
- 7) B
- 8) B
- 9) C
- 10) C
- 11) A
- 12) A
- 13) B
- 14) A
- 15) D
- 16) B
- 17) D