

Pre-Calculus 11

2.1-2 Extra Practice

No Calculators for Questions 1-4

1. For each angle:

i. Determine the quadrant

ii. Draw the angle in standard position

iii. Determine the measure of the reference angle

a. 350°

b. 285°

c. 100°

Quadrant 4

Quadrant 4

Quadrant 2

Ref angle = 10°

Ref angle = 75°

Ref angle = 80°

2. Find the reference angle

a. 310°

b. 240°

c. 195°

d. 140°

50°

60°

15°

40°

3. Solve on $0^\circ \leq \theta < 360^\circ$

a. $\tan \theta = -\frac{1}{\sqrt{3}}$

b. $\sin \theta = \frac{\sqrt{3}}{2}$

c. $\sin \theta = -\frac{1}{2}$

150° and 330°

60° and 120°

210° and 330°

d. $\cos \theta = 0$

e. $\cos \theta = -\frac{\sqrt{3}}{2}$

f. $\tan \theta = \frac{\sqrt{3}}{3}$

90° and 270°

150° and 210°

30° and 210°

4. Find the exact value:

a. $\sin 135^\circ$

$$\frac{1}{\sqrt{2}}$$

b. $\sin 180^\circ$

$$0$$

c. $\cos 300^\circ$

$$1/2$$

d. $\cos 150^\circ$

$$-\sqrt{3}/2$$

e. $\tan 90^\circ$

undefined

f. $\tan 60^\circ$

$$\sqrt{3}$$

5. Solve on $0^\circ \leq \theta < 360^\circ$

a. $\cos \theta = 0.6156$

$$52^\circ \text{ and } 308^\circ$$

b. $\sin \theta = 0.5738$

$$35^\circ \text{ and } 145^\circ$$

c. $\tan \theta = 1.6003$

$$58^\circ \text{ and } 238^\circ$$

d. $\cos \theta = -0.8829$

$$152^\circ \text{ and } 208^\circ$$

b. $\sin \theta = -0.4695$

$$208^\circ \text{ and } 332^\circ$$

c. $\tan \theta = -4.3315$

$$103^\circ \text{ and } 283^\circ$$

6. The following points are on the terminal arm of an angle in standard position. Find the three trigonometric ratios (sin, cos and tan), find the measure of the reference angle, then find the actual angle.

a. (4, 3)

$$\sin \theta = 3/5$$

$$\cos \theta = 4/5$$

$$\tan \theta = 3/4$$

$$\theta = 37^\circ$$

b. (-2, 5)

$$\sin \theta = 5/\sqrt{29}$$

$$\cos \theta = -2/\sqrt{29}$$

$$\tan \theta = 5/-2$$

$$\theta = 112^\circ$$

c. (-6, -4)

$$\sin \theta = -4/\sqrt{52}$$

$$\cos \theta = -6/\sqrt{52}$$

$$\tan \theta = \frac{-6}{-4} = 3/2$$

$$\theta = 236^\circ$$