

### Unit 9 Worksheet 1

Evaluate or simplify each expression. Leave your answers in simple radical form where appropriate.

1.  $\sin(30^\circ) + \cos(60^\circ)$

2.  $\sin\left(\frac{2\pi}{3}\right) \cdot \cos\left(\frac{5\pi}{6}\right) - \cos\left(\frac{2\pi}{3}\right) \cdot \sin\left(\frac{5\pi}{6}\right)$

3.  $4 \cdot \sin\left(\frac{\pi}{3}\right) \cdot \cos\left(\frac{\pi}{3}\right)$

4.  $\cos\left(\frac{\pi}{4}\right) \cdot \sin\left(\frac{\pi}{4}\right) - \cos\left(\frac{3\pi}{4}\right) \cdot \sin\left(\frac{\pi}{3}\right)$

5.  $\sin(300^\circ) \cdot \cos(300^\circ)$

6.  $12 \cdot \sin(45^\circ) \cdot \cos(45^\circ)$

7.  $20 \cdot \sin(60^\circ) \cdot \cos(240^\circ)$

8.  $\cos^2\left(\frac{3\pi}{4}\right) - \sin^2\left(\frac{\pi}{3}\right)$

9.  $\cos(45^\circ) \cdot \sin(210^\circ) - \sin(30^\circ) \cdot \cos(135^\circ)$

10.  $\sin^2\left(\frac{7\pi}{6}\right) + \cos^2\left(\frac{7\pi}{6}\right)$

### Unit 9 Worksheet 2

Graph one cycle of each sinusoidal function.

1.  $y = 3 + 2 \sin 2(\theta - 10^\circ)$

2.  $y = -2 + 4 \sin 3(\theta + 20^\circ)$

3.  $y = 5 + 3 \cos 4(\theta + 60^\circ)$

4.  $y = -1 + 6 \cos 10(\theta - 12^\circ)$

5.  $y = -1 - 5 \cos \frac{1}{2}(\theta + 30^\circ)$

6.  $y = 4 - 2 \sin \frac{1}{3}(\theta - 180^\circ)$

7.  $y = 6 + 4 \cos 2(\theta - 45^\circ)$

8.  $y = -5 - 7 \sin \frac{1}{3}(\theta + 90^\circ)$

9.  $y = 10 + 30 \sin 36(\theta - 1^\circ)$

10.  $y = -8 + 4 \cos \pi(x - 0.5)$

11.  $y = -1 + 5 \cos \frac{1}{4}(x - \pi)$

12.  $y = -4 + 2 \sin \frac{1}{2}(x + 3\pi)$

13.  $y = 2 + 5 \cos \frac{\pi}{4}(x + 4)$

14.  $y = -3 + 7 \cos \frac{\pi}{3}(x - 1)$

15.  $y = 1 + 6 \sin 2\pi\left(x + \frac{1}{2}\right)$