BLM 6–5 Section 6.4 Extra Practice

1. a) $\frac{\pi}{6}, \frac{\pi}{2}, \frac{5\pi}{6}, \frac{3\pi}{2}$

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

c) $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}$, and $\frac{7\pi}{4}$ **d)** π

2. a) 0°, 72°, 144°, 216°, 288° **b)** 270°
c) 90°, 270°

3. a) $\frac{2\pi}{3}, \frac{4\pi}{3}$

b) no solution

c) $\frac{\pi}{3}, \pi, \frac{5\pi}{3}$

4. −135°, −45°, 45°, 135°

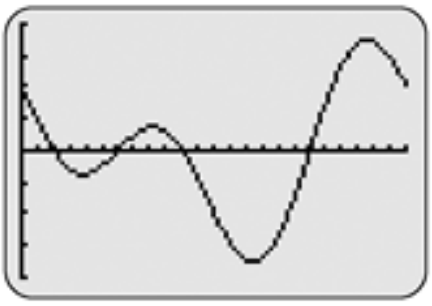
5. $\frac{3\pi}{4}, \frac{7\pi}{4}$

6. The error was in dividing 1 by 2.
$\sin 2x = 1$
$2x = 90°$
$x = 45°$

7. a) The student used 2π rather than π; because the equation is $\sin 2x = 1$, the period of the function is π.

b) $\frac{\pi}{4} + \pi n, \frac{5\pi}{4} + \pi n; n \in I$

8. a) Graph the function
$Y_1 = \cos x - 2 \sin x \cos x$ using Xmin = 0 and Xmax = 2π. The x-intercepts are the solutions.



b) $x = \frac{\pi}{6}, \frac{\pi}{2}, \frac{5\pi}{6}, \frac{3\pi}{2}$

9. $\frac{\pi}{2} + 2\pi n, \frac{\pi}{4} + \pi n; n \in I$

10. 60°, 120°, 240°, 300°
General Solution: $60° + 180°n$, $120° + 180°n$; $n \in I$