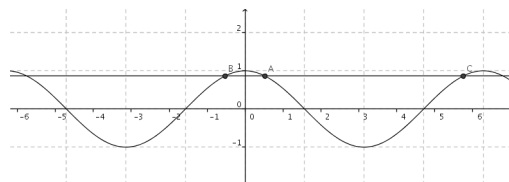
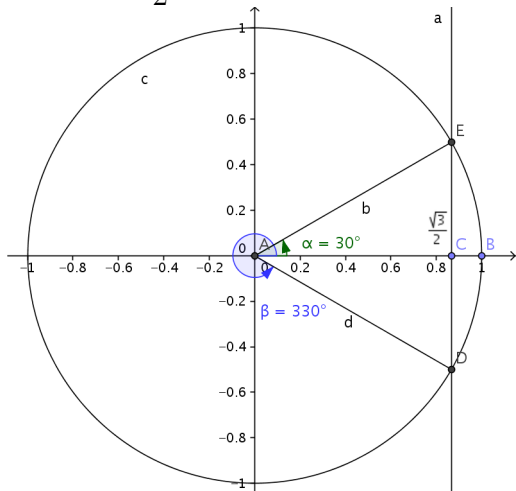
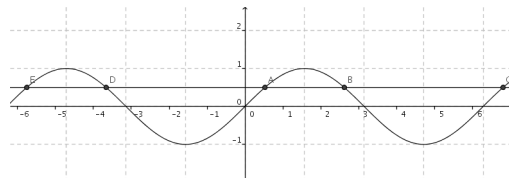
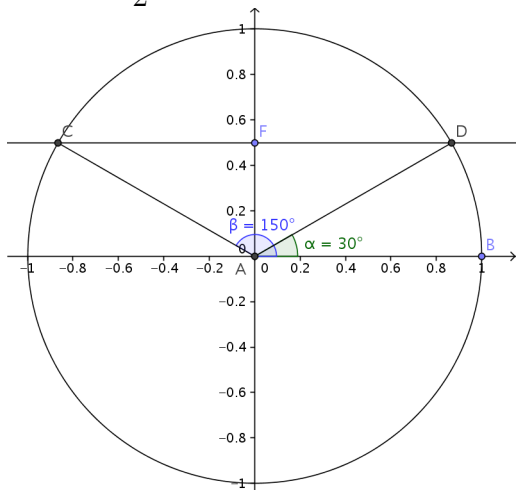


1. $\cos(x) = \frac{\sqrt{3}}{2}$



So, $x = 30^\circ + 360^\circ n, 330^\circ + 360^\circ n$
 or, $x = \frac{\pi}{6} + 2\pi n, -\frac{\pi}{6} + 2\pi n$
 where n is an Integer.

5. $\sin(x) = \frac{1}{2}$



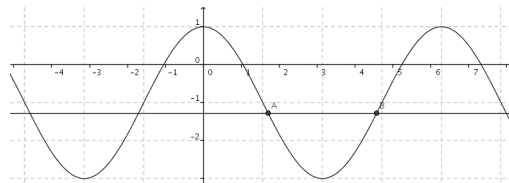
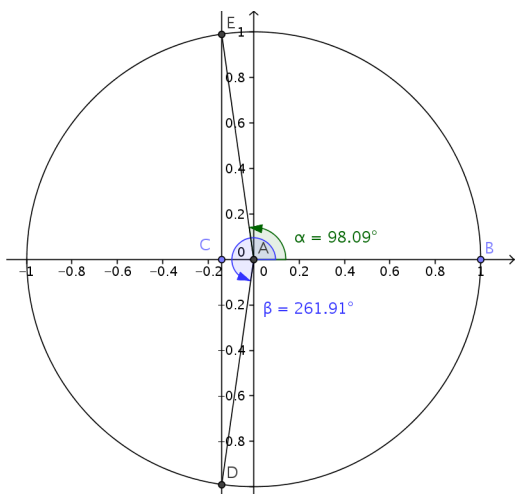
So, $x = 30^\circ + 360^\circ n, 150^\circ + 360^\circ n$
 or, $x = \frac{\pi}{6} + 2\pi n, \frac{5\pi}{6} + 2\pi n$
 where n is an Integer.

9. $2 \cos(x) - 1 = -1.2814$

$2 \cos(x) = -0.2814$

$$\cos(x) = -0.1407$$

$$x = \cos^{-1}(-0.1407) \approx 98.09^\circ$$



So, $x \approx 98.09^\circ, 261.91^\circ$
 or, $x \approx 1.71 \text{ rad}, 4.57 \text{ rad}$

15. $2 \sin^2(x) + \sin(x) = 1$

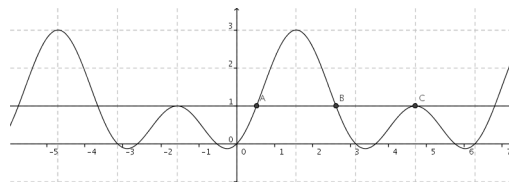
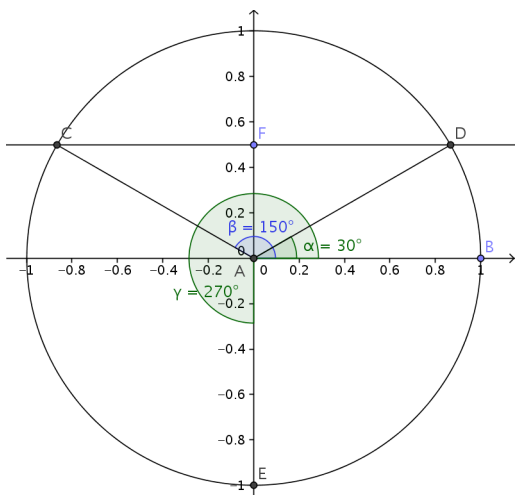
$$2 \sin^2(x) + \sin(x) - 1 = 0$$

$$(2 \sin(x) - 1) (\sin(x) + 1) = 0$$

$$(2 \sin(x) - 1) = 0 \text{ OR } (\sin(x) + 1) = 0$$

$$\sin(x) = \frac{1}{2} \text{ OR } \sin(x) = -1$$

$$x = \frac{\pi}{6}, \frac{5\pi}{6} \text{ OR } \frac{3\pi}{2}$$



$$43. \cos(\pi - x) + \sin\left(x - \frac{\pi}{2}\right) = 1$$

$$-\cos(x) - \cos(x) = 1$$

$$-2\cos(x) = 1$$

$$\cos(x) = -\frac{1}{2}$$

$$x = \frac{\pi}{3}, \frac{5\pi}{3}$$

