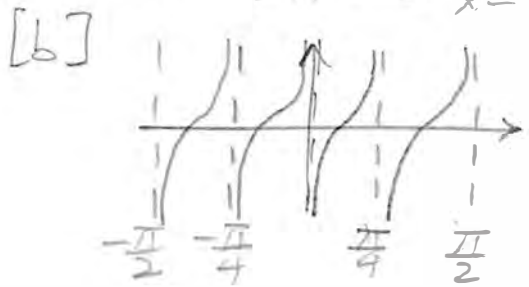
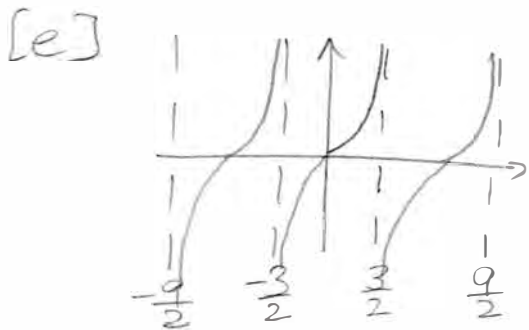


[2] [a] $4x = k\pi \rightarrow x = \frac{k}{4}\pi, k \in \mathbb{Z}$



[c] $\{x \neq \frac{k}{4}\pi, k \in \mathbb{Z}\}$

[d] $\frac{\pi x}{3} = \frac{\pi}{2} + k\pi \rightarrow x = \frac{3}{\pi}(\frac{\pi}{2} + k\pi) = \frac{3}{2} + 3k, k \in \mathbb{Z}$



[f] $\{x \neq \frac{3}{2} + 3k, k \in \mathbb{Z}\}$

$$[3] [a] \frac{-5+12}{2} = \frac{7}{2}$$

$$[b] \frac{12-(-5)}{2} = \frac{17}{2}$$

$$[c] -1 \text{ or } 3$$

$$[d] \frac{3}{2}P = 3 - (-1) = 4 \rightarrow P = \frac{2}{3}(4) = \frac{8}{3}$$

$$[e] \frac{2\pi}{B} = \frac{8}{3} \rightarrow 6\pi = 8B \rightarrow B = \frac{3\pi}{4}$$

$$y = -\frac{17}{2} \cos \frac{3\pi}{4}(x+1) + \frac{7}{2} \text{ or } y = \frac{17}{2} \cos \frac{3\pi}{4}(x-3) + \frac{7}{2}$$

$$[4][a] \text{ MAX} = -1 + 4 = 3$$

$$\text{MID} = -1$$

$$\text{MIN} = -1 - 4 = -5$$

$$\text{AMP} = |-4| = 4$$

$$\text{PERIOD} = \frac{2\pi}{\frac{\pi}{6}} = 2\pi \cdot \frac{6}{\pi} = 12$$

$$\text{SHIFT } \frac{\pi}{6}x + \frac{5\pi}{3} = 0$$

$$\frac{\pi}{6}x = -\frac{5\pi}{3}$$

$$x = -\frac{5\pi}{3} \cdot \frac{6}{\pi} = -10$$

$$[b] \frac{1}{4} \text{ PERIOD} = \frac{1}{4}(12) = 3$$

$$(-10, -5)$$

$$(-7, -1) \quad (5, -1)$$

$$(-4, 3) \quad (8, 3)$$

$$(-1, -1) \quad (11, -1)$$

$$(2, -5) \quad (14, -5)$$

$$[e] x = -7, x = -1, x = 5, x = 11$$

$$[f] (-\infty, -5] \cup [3, \infty)$$

[c]

[d] IN RED

