

$$c) \lim_{x \rightarrow 2+\sqrt{3}} \cos \left[\sin^{-1} \frac{(x-2)}{x-\sqrt{3}} \right]$$

Substituting $x = 2 + \sqrt{3}$

$$\left[\sin^{-1} \frac{(2+\sqrt{3}-2)}{(2+\sqrt{3}-\sqrt{3})} \right]$$

$$\left[\sin^{-1} \frac{(\sqrt{3})}{2} \right] = 60^\circ$$

$$\cos [60^\circ] = \frac{1}{2}$$

$$\lim_{x \rightarrow 2+\sqrt{3}} \cos \left[\sin^{-1} \frac{(x-2)}{x-\sqrt{3}} \right] = \frac{1}{2}$$

$$d) \lim_{x \rightarrow 4} \left[\frac{x^2 - 8x + 16}{x^2 - 5x + 4} \right] = \frac{[(x-4)(x-4)]}{(x-1)(x-4)}$$

$$\lim_{x \rightarrow 4} \left[\frac{(x-4)}{(x-1)} \right] = \frac{4-4}{4-1} = \frac{0}{3} = 0$$