

$$\rightarrow y'' = 0$$

$$\frac{4(x+2)}{9x^{\frac{5}{3}}} = 0 \rightarrow \frac{4}{9}(x+2) = 0 \rightarrow x+2=0 \rightarrow \boxed{x=-2}$$

$\rightarrow y''$  is undefined at

$$\frac{9}{9}x^{\frac{5}{3}} = 0 \rightarrow x^{\frac{5}{3}} = 0 \rightarrow \left(x^{\frac{5}{3}}\right)^{\frac{3}{5}} = 0 \rightarrow \boxed{x=0}$$



inflection points:  $(-2, f(-2)) = (-2, 7.56)$   
 $(0, f(0)) = (0, 0)$

**35** Suppose the total number of units produced by a worker in  $t$  hours of an 8-hour shift can be modeled by the production  $P(t)$ :

$$P(t) = 27t + 12t^2 - t^3$$

a) Find the number of hours before production is maximized.

$$P'(t) = 27 + 24t - 3t^2 = 0$$

$$\rightarrow \text{a} = -3, \text{ b} = 24, \text{ c} = 27$$

$$t = \frac{-24 \pm \sqrt{24^2 - 4(-3)(27)}}{2(-3)} = \frac{-24 \pm 30}{-6}$$