

$$26. y = x(3x - 9)^3$$

$$y' = x \cdot 3(3x - 9)^2(3) + (3x - 9)^3(1)$$

$$9x(3x - 9)^2 + (3x - 9)^3$$

$$(3x - 9)^2(9x + 3x - 9)$$

$$y' = \boxed{(3x - 9)^2(12x - 9)}$$

$$y = 5 \cos^2 \pi x$$

$$y' = 5 \cdot 2 (\cos \pi x) \cdot (-\sin \pi x) (\pi)$$

$$\boxed{-10 \pi \cos \pi x \sin \pi x}$$

$$y = 5 \cos \pi x^2$$

$$y' = 5 (-\sin \pi x^2) (2\pi x)$$

$$y = 5 \cos \pi x^2 = 5 \cos u$$

$$u = \pi x^2$$

$$du = 2\pi x$$

$$y' = 5 (-\sin u) \cdot du$$

$$y' = -5 \sin \pi x^2 (2\pi x)$$

$$\boxed{y' = -10 \pi x \sin \pi x^2}$$

$$y = 5 \cos^2 \pi x = 5 u^2$$

$$u = \cos \pi x$$

$$du = -\sin \pi x \cdot \pi$$

$$y' = 10u \cdot du = 10 \cos \pi x \cdot (-\sin \pi x)(\pi)$$

$$-10\pi \sin \pi x \cos \pi x$$

$$y = \sec x^2$$

$$y' = 2 \sec x \cdot \sec x \tan x$$

$$y' = 2 \sec^2 x \tan x$$

$$y = (x)^{\frac{1}{2}} - 2 \tan^4 4x$$

$$y' = \frac{1}{2} x^{-\frac{1}{2}} - (2)(4 \tan^3 4x)(\sec^2 4x)(4)$$

$$y' = \frac{1}{2\sqrt{x}} - 38 \tan^3 4x \sec^2 4x$$

$$y = \sqrt{\cos x} + \cos \sqrt{x}$$
$$(\cos x)^{1/2} = \cos^{1/2} x + \cos(x^{1/2})$$

$$y' = \frac{1}{2} \cos^{-1/2} x (-\sin x) + -\sin(x^{1/2}) \left(\frac{1}{2} x^{-1/2}\right)$$

$$y' = \frac{-\sin x}{2\sqrt{\cos x}} - \frac{\sin \sqrt{x}}{2\sqrt{x}}$$

$$y = 37 - \sec^3(2x) \quad (0, 36)$$

a) find value of der. @ point

b) find EQ of tangent line!

$$y' = -3 \sec^2(2x) \cdot (\sec 2x \tan 2x) (2)$$

$$y' = -3 \sec^2 0 \cdot \sec 0 \cdot \tan 0 \cdot 2$$

$$\sec 0 = \frac{1}{\cos 0} = \frac{1}{1} = 1$$

$$\tan 0 = \frac{\sin 0}{\cos 0} = \frac{0}{1} = 0$$

$$y' = 0 = m \quad (0, 36)$$

b) $36 = 0 \cdot 0 + b$
 $\cdot b = 36$

$$\boxed{y = 36}$$

Homework

P. 131 # 45-63
multiples of 3