

3.3

$$(7) \quad y = x^3 - 2x^2 + x + 1$$

$$y' = 3x^2 - 4x + 1 = 0$$

$$(3x-1)(x-1) = 0$$

$$3x-1=0 \quad x-1=0$$

$$x = \frac{1}{3}$$

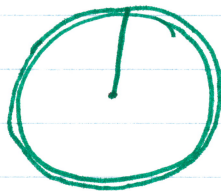
$$x = 1$$

$$(14b) \quad y = \frac{x^2 + 3}{x} = \frac{x^2}{x} + \frac{3}{x} = x + 3x^{-1}$$

$$y' = 1 - 3x^{-2}$$

$$(49) \quad A = \pi r^2$$

$$C = 2\pi r$$



$$(50) \quad V = \frac{4}{3}\pi r^3$$

$$SA = 4\pi r^2$$

$$(23d) \quad \frac{d}{dx} (7v - 2u)$$

$$7v' - 2u'$$

$$(48) \quad R = m^2 \left( \frac{c}{2} - \frac{m}{3} \right) = \frac{c}{2} m^2 - \frac{1}{3} m^3$$

$$\frac{dR}{dm} = cm - m^2$$

3.3

$$(52) \text{ MEMBER'S SHARE} = \frac{\text{RENTAL FEE}}{\# \text{ MEMBERS}}$$

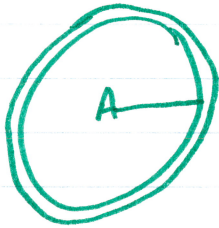
$$m = \frac{r}{n} f$$

$$m' = \frac{r'n - n'r}{n^2}$$

$$= \frac{(10)(65) - (6)(250)}{65^2} = -\frac{850}{4225} \text{ \$/members}$$

3.3

(49)



$$A = \pi r^2$$

$$C = 2\pi r$$

dr

(41)

$$y = \frac{4x}{x^2+1}$$

(0,0), (1,2)

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

$$y'(0) = \frac{4(0^2+1) - 2(0)(4(0))}{(0^2+1)^2} = \frac{4}{1} = 4$$

① (0,0)

$$y - 0 = 4(x - 0)$$

$$y = 4x$$

$$y'(1) = \frac{\overbrace{4(1^2+1)}^B - 2(1)\overbrace{(4(1))}^B}{(1^2+1)^2} = \frac{0}{4} = 0$$

② (1,2)

$$y = 2$$

(48)

$$R = M^2 \left( \frac{C}{2} - \frac{M}{3} \right)$$

$$R = \frac{1}{2} CM^2 - \frac{1}{3} M^3$$

$$\frac{dR}{dM} = CM - M^2$$

(58)

$$f(x) = (x^2-1)(x^2+1)$$

$$= x^4 + x^2 - x^2 - 1$$

$$= x^4 - 1$$

$$f'(x) = 4x^3 = 0$$