

87.1 p503 #7, 10, 23, 35, 49, 63

87.2 p512 #49

(#7)  $x - y = -4 \quad x = y - 4$

$$x^2 - y = -2$$

$$(y-4)^2 - y = -2$$

$$y^2 - 8y + 16 - y = -2$$

$$y^2 - 9y + 18 = 0$$

$$(y-3)(y-6) = 0$$

$$y = 3, 6$$

if  $y = 3, x = -1 \quad (-1, 3)$   
 $y = 6, x = 2 \quad (2, 6)$

(10)  $x + y = 0 \rightarrow y = -x$

$$x^3 - 5x - y = 0$$

$$x = 0, 2, -2$$

$$x^3 - 5x - (-x) = 0$$

$$y = 0, -2, 2$$

$$x^3 - 5x + x = 0$$

$$x^3 - 4x = 0$$

$$(0, 0), (2, -2), (-2, 2)$$

$$x(x^2 - 4) = 0$$

$$x(x+2)(x-2) = 0$$

(23)  $6x + 5y = -3$

$$-x - \frac{5}{6}y = -7 \Rightarrow x = 7 - \frac{5}{6}y$$

$$6(7 - \frac{5}{6}y) + 5y = -3$$

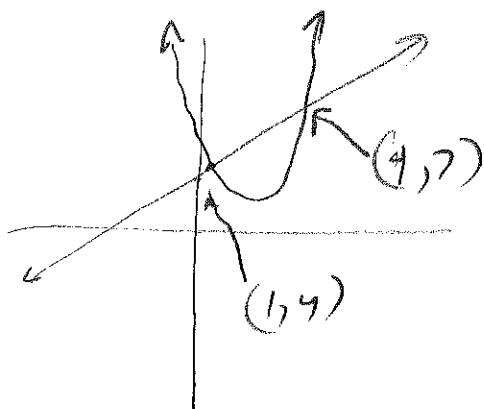
$$42 - 5y + 5y = -3$$

$$42 = -3$$

no soln!

$$\textcircled{35} \quad x - y + 3 = 0 \quad \rightarrow \quad y = x + 3$$

$$x^2 - 4x + 7 = y$$



$$\textcircled{49} \quad y = 2x \quad 2x = x^2 + 1$$

$$y = x^2 + 1 \quad 0 = x^2 - 2x + 1 = (x-1)(x-1)$$

$$x = 1 \quad (1, 2)$$

$$\textcircled{63} \quad R = 55.95x$$

$$C = 11000 + 35.45x$$

$$\textcircled{a} \quad 55.95x = 11000 + 35.45x$$

$$20.5x = 11000$$

$$x \approx 781 \text{ units}$$

$$\textcircled{b} \quad 60000 = 55.95x - (11000 + 35.45x)$$

$$76000 = 20.5x$$

$$x \approx 3708 \text{ units}$$

9.7.2

49

$$2x + 1y = 850 \rightarrow y = 850 - 2x$$

$$3x + 2y = 1390$$

$$3x + 2(850 - 2x) = 1390$$

$$3x + 1700 - 4x = 1390$$

$$310 = x \quad \text{chees burger}$$

$$y = 850 - 2(310) = 230 \text{ cats fries}$$