

HW 44

p207 # 23-26, 39-43, 58-62, 75-77

$$23. \quad 0 = 2x^2 - 7x - 30$$
$$0 = (2x+5)(x-6)$$
$$\boxed{x=6, -5/2}$$

$$24. \quad 0 = 3x^2 + 22x - 16$$
$$0 = (3x-2)(x+8)$$
$$\boxed{x=-8, 2/3}$$

$$25. \quad 0 = \frac{x}{9x^2 - 4}$$
$$\boxed{x=0}$$

$$26. \quad f(x) = \frac{(x-7)(x-2)}{4x}$$
$$\boxed{x=7, 2}$$

$$39. \quad I: (-\infty, \infty)$$

$$40. \quad D: (-\infty, 2)$$
$$I: (2, \infty)$$

$$41. \quad I: (-\infty, 0) \cup (2, \infty)$$
$$D: (0, 2)$$

$$42. \quad D: (-\infty, -1)$$
$$I: (1, \infty)$$

$$43. \quad D: (-\infty, -1)$$
$$I: (1, \infty)$$
$$C: (-1, 1)$$

$$58. \quad (0.33, -5.33) \text{ min}$$

$$59. \quad (1.50, 0.25) \text{ max}$$

$$60. \quad (2.25, 10.13) \text{ max}$$

$$61. \quad (-1.79, 8.21) \text{ max}$$
$$(1.12, -4.06) \text{ min}$$

$$62. \quad (-0.15, 1.08) \text{ max}$$
$$(2.15, -5.08) \text{ min}$$

$$75. \quad \frac{f(3) - f(0)}{3 - 0}$$
$$= \frac{9 - 15}{3 - 0}$$
$$= -6/3 = \boxed{-2}$$

$$76. \quad \frac{f(3) - f(0)}{3 - 0}$$
$$= \frac{17 - 8}{3 - 0}$$
$$= 9/3 = \boxed{3}$$

$$77. \quad \frac{f(5) - f(1)}{5 - 1}$$
$$= \frac{81 - 9}{4}$$
$$= 72/4 = \boxed{18}$$