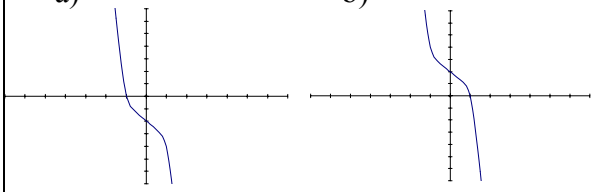
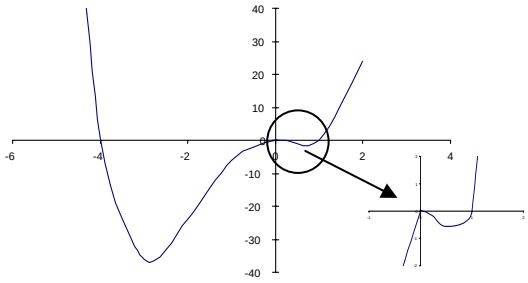
Section 4.1

2. a) b)



20. f(x) > 0 if x < -4 or x > 1
f(x) < 0 if -4 < x < 0 or 0 < x < 1



Section 4.6

8. $k = \frac{2500}{3}$

12. $k = \frac{8}{5}$

14. (a) $F = kx$

(b) $k = \frac{40}{3}$

(c) 20 lb.

16. a. $I = \frac{k}{d^2}$ b. $k = 2.5 \times 10^9$

c. 89.7 candlepower

24. a. $V = k\frac{nT}{P} = \frac{knT}{P}$ b. V is doubled.

Section 9.1

2. (-2, 5), (1,2)

4. No real solutions, $y = -1 \pm i\sqrt{2}$

18. No real solutions, $x = -\frac{6}{5} \pm \frac{2}{5}i$

20. $\left(\frac{1}{3}, 6\right), (-2, -1)$

40. $r = 2$ in. and $h = 50/\pi$

Section 9.2

2. (-3, 5)

10. $\left(\frac{55}{31}, -\frac{95}{31}\right)$

14. No solution

16. All (x,y) such that x-5y=2

24. He can row 55 ft./min.
The current is 5 ft./min.

32. 320 $0.50 notebooks and 180 $0.70 ones

34. $V_0 = 80$ ft/sec, $S_0 = 20$ ft.