Answers – interpreting the 1st and 2nd derivative

1.
a. inc: (3,6), dec:(0,3),(6,8)
b. x = 3, 6
c. x = 6, x = 3
d.ccup: (0,1), (2,4.5), (7,8)
 ccdown: (1,2), 4.5,7)
e. x = 1, 2, 4.5, 7
f. min: x=2, max: x = 0
g. min: x=3, max: x = 6
h. –
i. answer to h, up 5 spaces

2.
a. (2,4)
b. x = 2
c. increasing, concave up with slope of zero at zero.
Must be increasing on (0,2).

3.
a. y-5=1(x-1)
b. (1,2) (6.2,8)
c. x = 4.5

4.
a. approx 3.3
b. approx 0
c. since h'(3) is neg, h is decreasing at x = 3.

5.
a. ccup: $\left(-\infty, -1\right)\left(4, \infty\right)$
b. k=3

6.
a. 1, 4.3
b. 4.3
c. (-1,1)
d. approx: 6.9

7.
a. y=1(x+4)
b. local min @ x=0 since f' switches from neg to pos at x=2.8
c. (-4,3) (-1,2)
d. -

8.
x = approx 1.2, 3.3, 6.5

9.
a. p = -2, q = 5
b. p = -6