<u>**SHOW ALL WORK ON A SEPARATE SHEET OF PAPER**</u>

Solve each of the following by factoring, the quadratic formula or by square roots.

1. $2x^2 - 50 = 0$ 2. $3x^2 - 14x - 5 = 0$ 3. $x^2 - 8x - 1 = 0$

4. $2(x + 6)^2 = 144$ 5. $6x^2 + 12x = -4$ 6. $5x^2 + 3x = 0$

Graph each of the following quadratic equations. State if the vertex is a max or min.

7. $y = x^2 - 4x - 5$ 8. $y = -(x + 3)^2 - 2$ 9. $y = -2x^2 + 12x + 3$ 10. $y = 3x^2 - 1$

11. Suppose you hit a baseball and its flight takes a parabolic path. The height of the ball at certain times appears in the table.

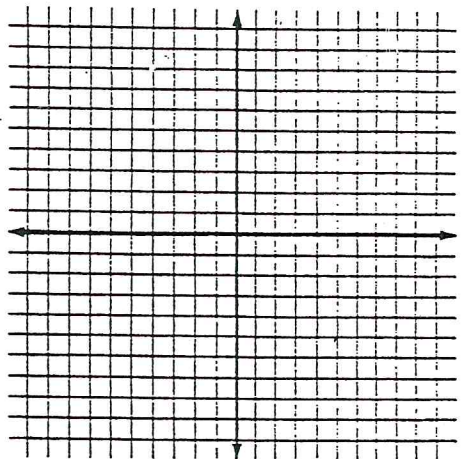| Time (sec)	0.5	0.75	1	1.25
Height (ft)	10	10.5	9	5.5

Draw a sketch of graph and define variables.   x =   y =
a) Write a quadratic model for the data.
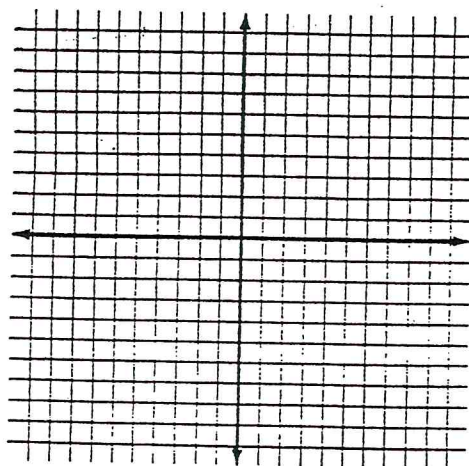b) Find the height of the ball after 1.1 seconds.
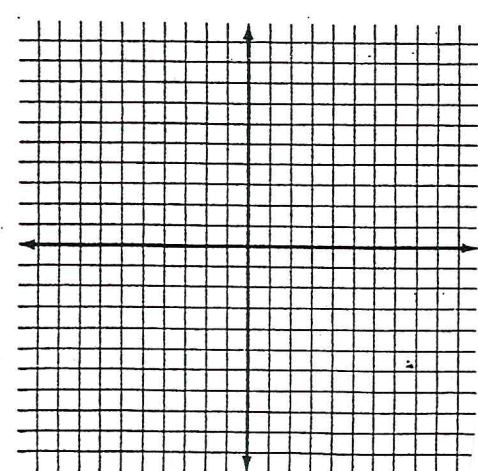c) At what time is the ball 6 ft high?

(7.)

(8)

(9)

(10)