Math 3 Final Review Ch 2

Graph and describe the transformation from its parent function

1. $g(x) = -1/2\ x + 3$
2. $h(x) = -2(x - 1)^2 + 6$
3. $h(x) = \frac{1}{2}|x + 4| - 1$

Write a new function g(x) that represents the indicated transformations of the graph of f(x)

4. $f(x) = x^2$ Vertical shrink of factor ⅓ followed by reflection in the x-axis
5. $f(x) = 2|x| + 3$ translate right 2 units then up 5

Use completing the square to write the equation in vertex form.
Give the vertex. State whether this is a maximum or minimum and give its value.

6. $y = x^2 - 12x + 5$

Vertex form:
Vertex:
Max or min?:

7. $y = 2x^2 + 6x + 8$

Vertex form:
Vertex:
Max or min?:

Write a quadratic equation with the following characteristics.

8. Contains (-7 , -15) and has vertex (-5 , 9)
9. x-intercepts 5 and -1 passes through (4 , 3)

You toss a ball into the air. The path of the ball can be modeled by $h(t) = -2t^2 + 14t + 2$
where *t* is seconds and h(t) is the height.

10. What is the ball's maximum height? _____
(give answer to two decimal places if necessary)

11. You catch it after 7 seconds. How high was the ball when you caught it? _____