Math 3 Final Review Ch 2

Graph and describe the transformation from its parent function

1. g(x) = -1/2 x + 32.  $h(x) = -2(x - 1)^2 + 6$ 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  $\frac{1}{3}$ followed by reflection in the x-axis  $f(x) = 2I \times I + 3$  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.  $y = x^2 - 12x + 5$ 7.  $y = 2x^2 + 6x + 8$ 

Vertex form:	Vertex form:
Vertex:	Vertex:
Max or min?:	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?