

Math 103 Professor Katiraie (Sections 7.5, 7.6, 8.1, and 8.2) Quiz 8 Form A (20 Pts)
Name _____

1) Solve the following equations symbolically (i.e. algebraically) (2 points each)
Check your results.

a) $\sqrt[4]{t+1} = 2$

b) $\sqrt{x+6} = x$

c) $\sqrt[3]{2z-4} = -2$

d) $\sqrt{b^2-4} = b-2$

2) Use imaginary unit to write the expression.

(2 points)

a) $\sqrt{-12}$

b) $\sqrt{-18}$

c) $\sqrt{-144}$

d) $\sqrt{-100}$

3. Suppose that a baseball is thrown upward with an initial velocity of 66 feet per second and it is released 6 feet above the ground. Its height h after t seconds is given by

$$h(t) = -16t^2 + 66t + 6.$$

a) After how many seconds does the baseball reach a maximum height? (2 points)

b) What is the maximum height? (2 points)

4. Write the vertex form of a parabola that satisfies the following condition.

Vertex $(5, -2)$ and $a = -\frac{1}{2}$ (2 points)

b) Write the above equation in the form of $y = ax^2 + bx + c$ (2 points)

5. Write the vertex form of the parabola shown in the following graph.

Assume $a = \pm 1$ (2 points)

