

Name: _____

1. Solve this quadratic equation by all of the method of the chapter. $2x^2 = 7x + 4$.
 - a. factoring
 - b. completing the square
 - c. quadratic formula
 - d. graphing

2. For this quadratic function, find and label the vertex, x-intercepts and y-intercept by algebra and arithmetic and draw its graph. Check the graph using the graphing calculator.

$$y = f(x) = -3x^2 + 12x - 5$$

3. A computer chip needs to be 6 mm longer than it is wide. If its area is 180 mm^2 , find the length and width of the chip. Include and number the six steps of solving word problems: 1. Read problem, 2. Identify variables, 3. Draw diagram and create equations, 4. Solve equations, 5. Write sentence solution, 6. Check work.

4. A missile is fired into the air. The distance s (in ft) above the ground as a function of time t (in sec) is given by $s = 300 + 500t - 16t^2$. Find the following algebraically and check using the graphing calculator.
- How high is the missile in 5 seconds?
 - When will the missile hit the ground?
 - When will the missile be 1000 ft above the ground?
 - What is the time and height when the missile is at its highest. (Extra Credit)