ANALYZING QUADRATIC FUNCTIONS IN THE CALCULATOR

Use the following calculator steps, as needed, to graph a quadratic function and then find its exact vertex and x-intercepts.

To GRAPH	1) Press [Y =] and input equation into y_1 2) Press [GRAPH]

To find the VERTEX	1) Press [2nd] [TRACE] 2) Press [3] if the vertex is a minimum or [4] if the vertex is a maximum 3) When asked "Left Bound?" use [←] to move the cursor to the LEFT of the vertex. Press [ENTER] 4) When asked "Right Bound?" use [→] to move the cursor to the RIGHT of the vertex. Press [ENTER] 5) When asked "Guess?", press [ENTER]

To find the X-INTERCEPTS, or _____, or _____, or _____	1) Press [2nd] [TRACE] [2] 2) When asked "Left Bound?" use [←] to move the cursor to the LEFT of the x-intercept. Press [ENTER] 3) When asked "Right Bound?" use [→] to move the cursor to the RIGHT of the x-intercept. Press [ENTER] 4) When asked "Guess?", press [ENTER] 5) Repeat steps 1-4 for other x-intercept, if one exists.

1. Graph $f(x) = x^2 + 4x - 5$ in the calculator, and answer the following.

Vertex: _____ Max or Min Axis of symmetry: _____

x-intercepts: _____ y-intercept: _____

f(2) = _____ Range: _____

2. Graph $h(x) = -2x^2 + x + 7$ in the calculator, and answer the following.

Vertex: _____ Max or Min Axis of symmetry: _____

Roots: _____ y-intercept: _____

h(-5) = _____ Domain: _____

3. Find the solutions of $x^2 + 7x = -10$ by hand *and* in the calculator.

4. What is the zero of $r(x) = \frac{-5}{3}x + 15$?

A. 15

B. -15

C. 9

D. -9

5. Which statement about the quadratic equation below is true?

$$-4.5x^2 + 72 = 0$$

A. The equation has x = 4 as its only solution.

B. The equation has no real solutions.

C. The equation has x = 4 and x = −4 as its only solutions.

D. The equation has an infinite number of solutions.

6. Which statement about the function $g(x) = (x - 3)^2$ is false?

A. g(x) has one root at x = 3.

B. g(x) has a minimum point.

C. g(x) has no real solutions.

D. g(x) has a range of all real numbers greater than or equal to 0.