

MTH 65 – Winter Term 2009

Test 4 – calculator portion

Given: March 11, 2009

Name \_\_\_\_\_

1. Find the  $x$ -intercepts for each parabola showing all of the necessary work. State your conclusions using complete sentences.

Please note: I'm not asking you to graph the parabolas.

a.  $y = 2x^2 + 3x - 20$

b.  $y = x^2 - 10x + 41$

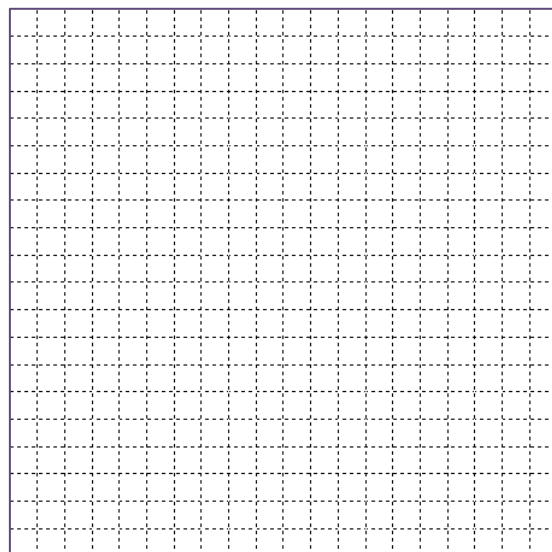
2. State the vertex, axis of symmetry, and  $y$ -intercepts for each parabola showing the work necessary to determine each vertex. State your conclusions using complete sentences. Again, I am not asking you to graph the parabolas.

a.  $y = 2x^2 + 3x - 20$

b.  $y = x^2 - 10x + 41$

3. OK, this time I *am* asking you to graph a parabola. Make sure that you do each of the following.
- Show the work necessary to determine the vertex of the parabola
  - Show a table with at least 9 points that clearly illustrates the symmetry of the parabola.
  - Give due consideration to reasonable places to draw each axis and due consideration to reasonable scales to use for each axis.
  - Label your axes with all of the necessary labels.
  - Accurately graph the frickin' parabola.

Graph:  $y = -2x^2 - 12x - 13$



4. Ms. P. Pod blew a spitball through a straw into the air. The height (ft) of the spitball  $t$  seconds after the ball left the straw is given by the function  $h(t) = -16t^2 + 64t + 6$ . Answer each of the following questions showing all of the work necessary to determine the answer. Make sure that you answer using contextually appropriate sentences.
- a. What was the maximum height reached by Ms. Pod's spitball?
- b. How many seconds after ejection was the spitball at a height of 52.36 ft?