

MTH 65 – Winter Term 2009
Test 3 – no calculator portion
Given: March 11, 2009

Name _____

1. Find the solution to each equation using the zero principle. Don't forget to state your solutions!

a. $(2x - 7)(3x + 12) = 0$

b. $w^2 + 22w = 48$

2. Find the solution to the equation $x^2 + 4 = 2x$ using the quadratic formula. Don't forget to state your solutions!

3. Find the solution to the equation $(1 - 3x)^2 = 25$ using the square root property. Don't forget to state your solutions!

4. Find the solution to each equation using whatever method your heart desires. Don't forget to state your solutions!

a. $x^2 - 5x + 6 = 0$

b. $(x - 2)(x + 5) = -10$

5. Completely simplify each radical expression and write the result in the provided blank. **Do all of your work in the blank area at the bottom of the page; don't worry about the way you organize your work.**

a. $\sqrt{360} =$

b. $\sqrt{450} =$

c. $\frac{3 \pm \sqrt{12}}{3} =$

d. $\frac{3 \pm \sqrt{18}}{3} =$

e. $\frac{5 + \sqrt{25}}{5} =$

f. $\frac{4 + \sqrt{20}}{8} =$

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

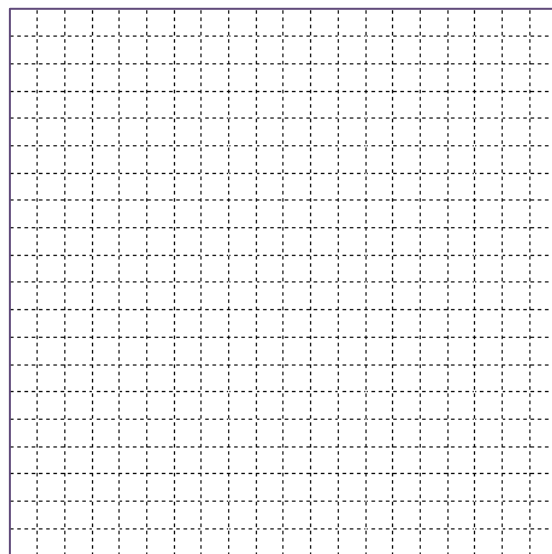
2. State the vertex, axis of symmetry, and y -intercepts for each parabola showing the work necessary to determine each vertex. State your conclusions using complete sentences. Again, I am not asking you to graph the parabolas.

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?