Study Guide for the final: 7 of 7

This document may be collected and graded. Do your best work and do all problems.

Name _____ Points received: _____/10

Objective #1: Final Review(homework) for the Final Exam

Directions: Show your work to receive credit. See your class notes if you forget what work to complete.

1. Solve with factoring $x^2 + 2x - 3 = 0$

2. Solve with factoring $x^2 + 2x = 48$

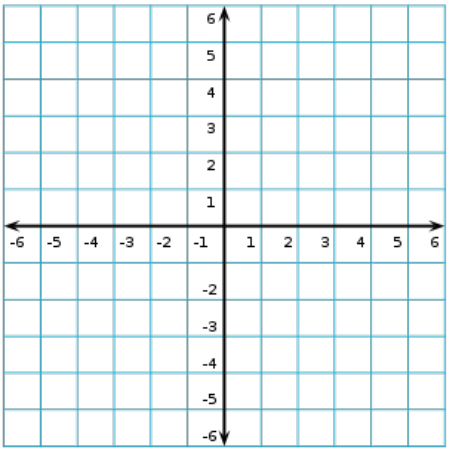
3. Find the x-intercepts of $f(x) = 6x^2 - x - 2$

4. Find the vertex of the quadratic function $f(x) = -2x^2 - 3.5x - 10$

5. At this point, you should have memorized the quadratic equation. Write it below and then use it to find the zeros of the function $f(x) = 0.5x^2 + 2x$

7. Solve the following system of inequalities by graphing.

$$y \geq x - 3$$
$$2x + 3y < 6$$



8. An 6 foot tall archer shoots an arrow into the air at a target 100 yards away. The bow launches the arrow at an initial velocity of 300 ft/s. Using your notes and the formula from the PHYSICS Day 1 worksheet, create an equation for the height of the arrow *h* as a function of time *t*. Write that function below.

Use that function, determine how long it takes for the arrow to reach it's maximum height?

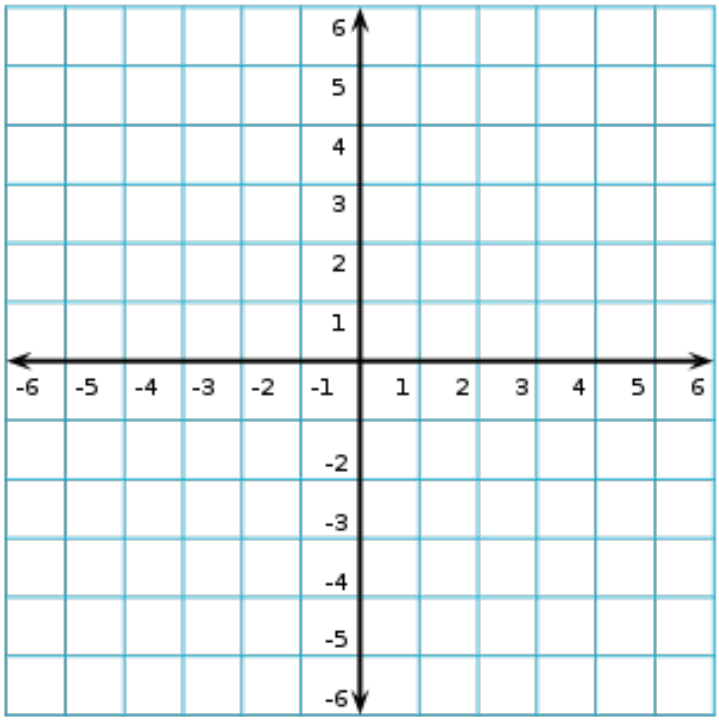
What is the arrow's maximum height? Round to the nearest hundredth, if necessary.

9. Write the polynomial in standard form (decreasing degrees): $10x^2 - 3x^3 - 4x + 5x + x^4$

10. Write a system of equations that models the following situation:

Mr. Lloyd has only \$1.00 and \$5.00 bills in his pocket. He has a total of 23 bills in his wallet and 5 more \$1.00 bills than \$5.00 bills. Write and solve a system of equations to determine how many \$1.00 bills he has (*x*) and how many \$5.00 bills (*y*) he has.

11. Graph the quadratic function $y = -2x^2 + 2x + 4$ using 5 points. (HINT: create a table)



y-intercept = _____

Vertex: _____

Axis of Sym: _____

Min/Max(which one?): _____