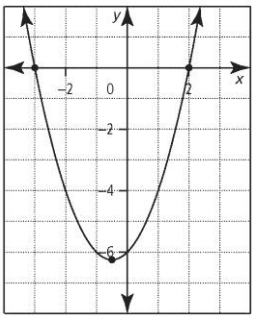
**Student Name:** _____ **Date:** _____

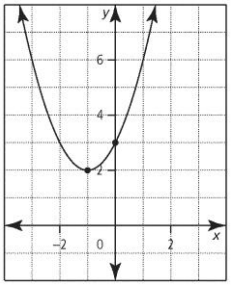
# QuadEq L1 A1 – Graphical Solutions

1. How many *x*-intercepts does the graph of each quadratic function have?

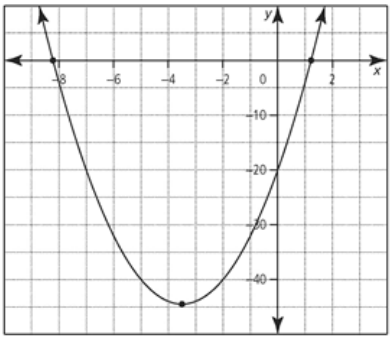
a.



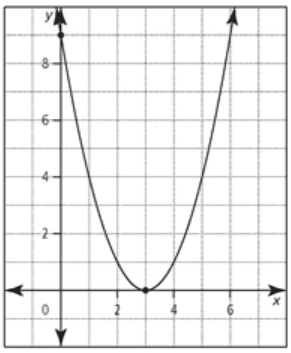

b.




c.



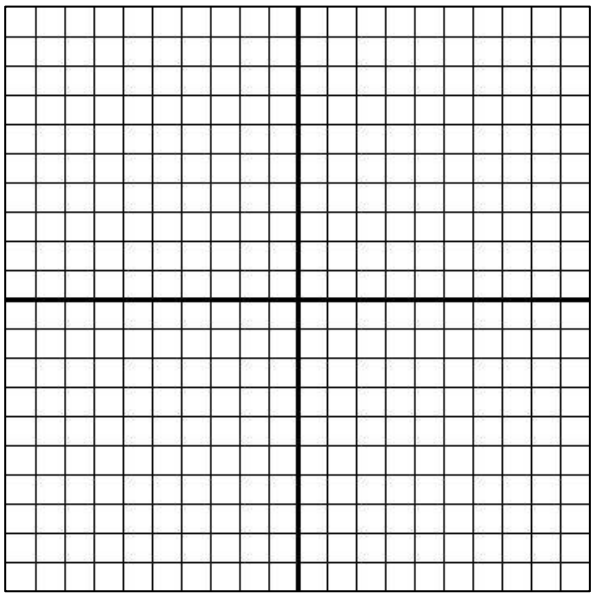

d.



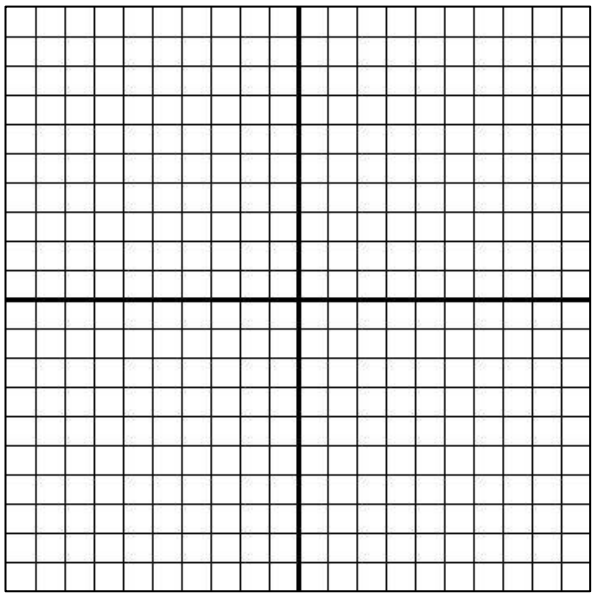

2. What are the roots of the quadratic equations graphed in #1?

3. Solve by graphing.

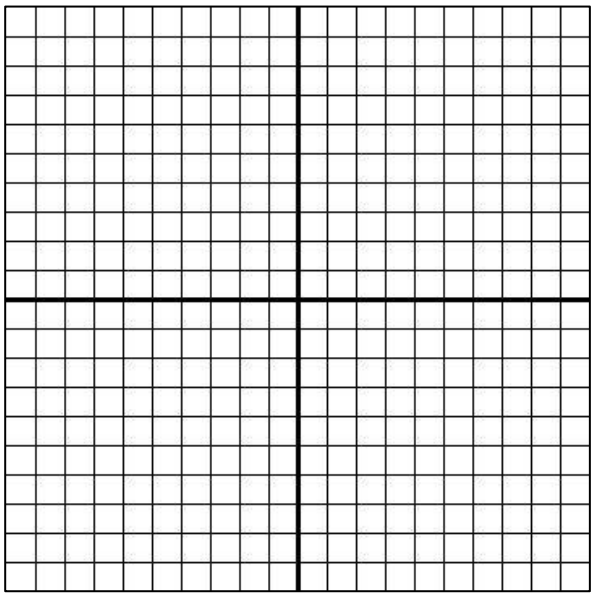
a) $0 = -a^2 - 3a - 4$



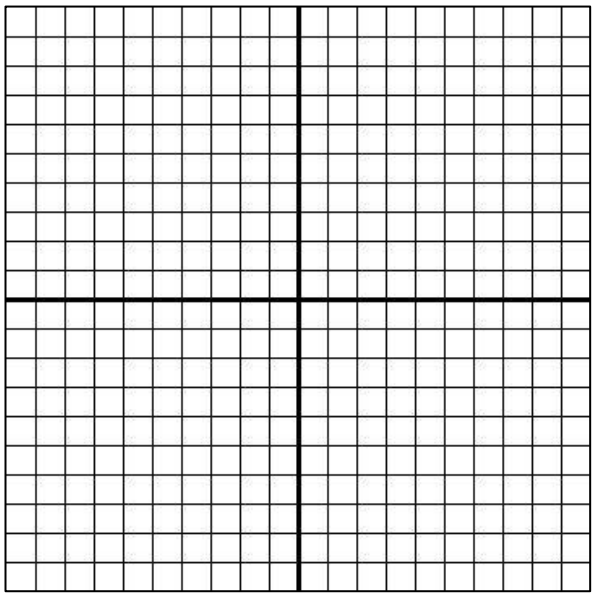
b) $12 = -3b^2 - 12b$



c) $6c^2 + 30c = 0$



d) $d^2 - 4 = 0$



4. Determine the roots for each quadratic equation by graphing. You may want to use a graphing tool. Where integral roots cannot be found, estimate the roots to the nearest tenth.

a) $0 = x^2 + 2.4x - 3.85$

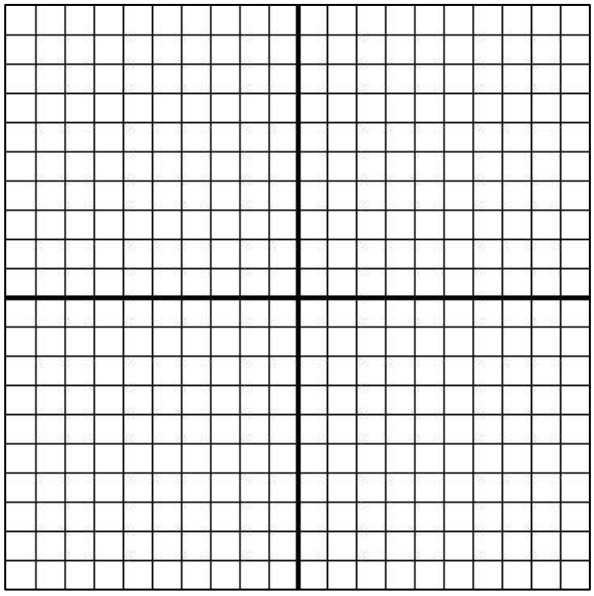
b) $z^2 - 15 = 0$

c) $t^2 + t = -1$

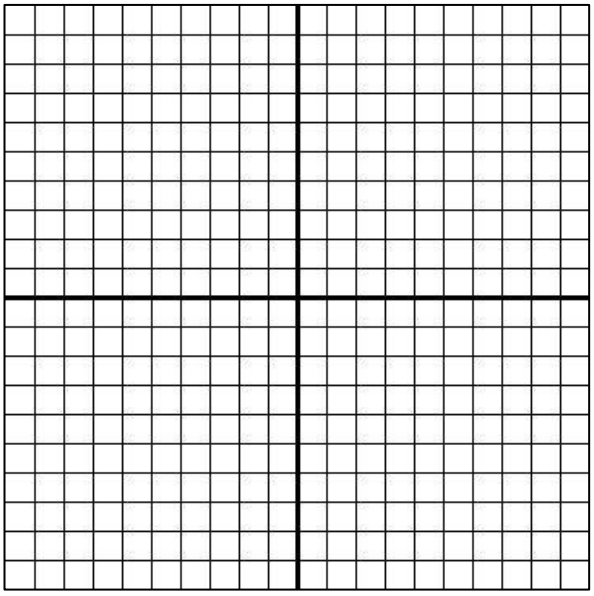
d) $0 = -u^2 - u + 5$

5. Solve by graphing.

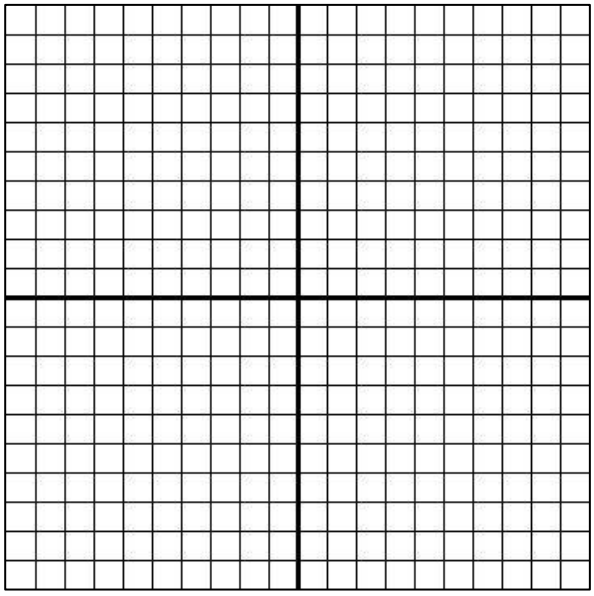
**a)** $t^2 - 5t - 150 = 0$



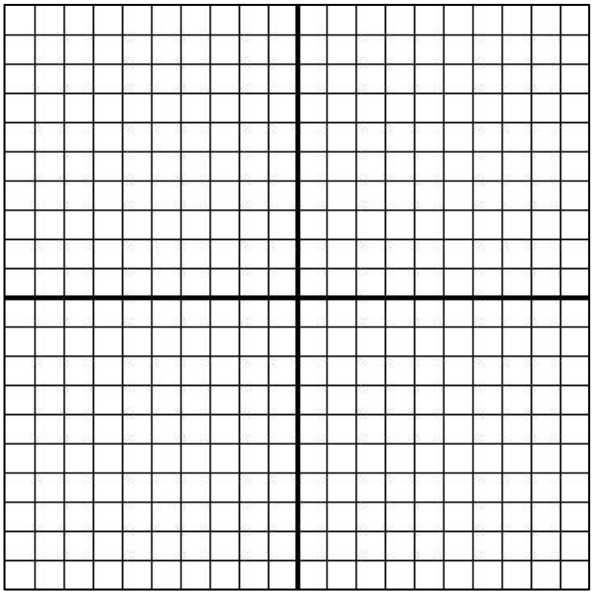
**b)** $h^2 - 400 = 0$



**c)** $0 = x^2 + 0.6x - 0.05$



**d)** $5y^2 + 3y + 100 = 0$



6. For what values of $m$ would the equation $x^2 + 8x + m = 0$ have

a) One real root or two equal real roots?

b) Two real distinct roots?

c) No real roots?

7. An object is launched at 21.5 m/s from a height of 2.4 m. The equation for the object's height, $h$, measured in metres, $t$ seconds after launch is $h = -4.9t^2 + 21.5t + 2.4$. After how many seconds will the object hit the ground? Express your answer to the nearest tenth of a second.

8. A right triangle has one side that is 7 cm longer than its shortest side. The triangle's hypotenuse is 8 cm longer than the shortest side. What are the dimensions of the triangle?