

**Algebra Concepts**  
**2<sup>nd</sup> Semester Exam Study Guide**

**1. State the three methods we have to solve a system of equations.**

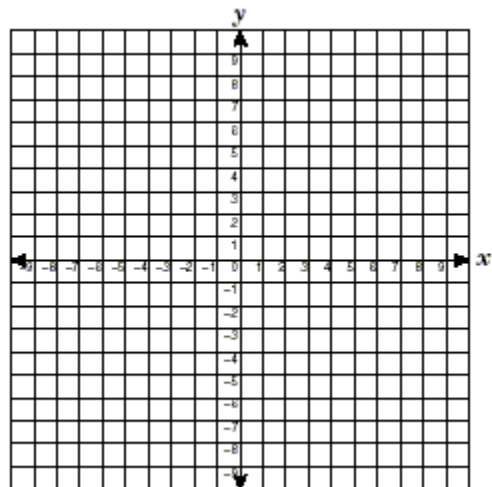
A. \_\_\_\_\_

B. \_\_\_\_\_

C. \_\_\_\_\_

**State how many solutions each of the following systems has.**

**Graph the system of linear inequalities**



**Simplify the following expressions. Answers should have no negative exponents.**

**Rewrite the number in scientific notation**

**Rewrite the number in decimal form.**

**Use prime factorization (factor tree) to simplify each expression.**

**Simplify each fractional square root. Rationalize to get radicals out of the denominator.**

**Use  $b^2 - 4ac$  to determine if the equation has 0, 1, or 2 solutions.**

For the following inequality, find the answers to A through F and then graph.

A. opens up down

B. parabola is dotted solid

C. vertex ( )

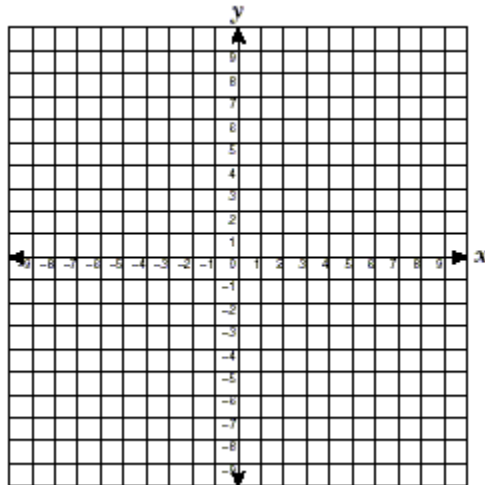
D. AOS:  $x =$

E. y-intercept (0, )

F.  $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

x-intercepts ( ,0) ( ,0)

G.



**Match the polynomial with the correct factorization.**