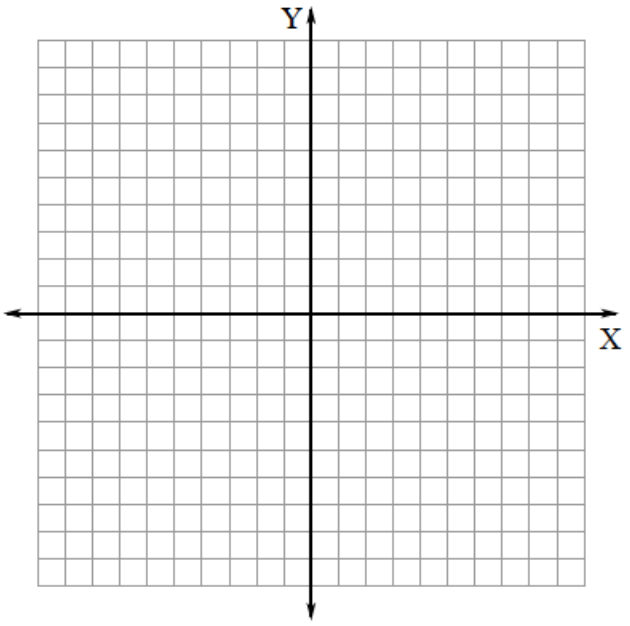
Algebra 1: 12.4 HW **Name** _____ **Period** _____

Solving Quadratics by Factoring and Graphing

Factor each polynomial to determine the solution(s) or *x*-intercept(s), if possible. Then, graph the solution(s), the axis of symmetry, and the vertex.

1. $x^2 - 8x = -12$

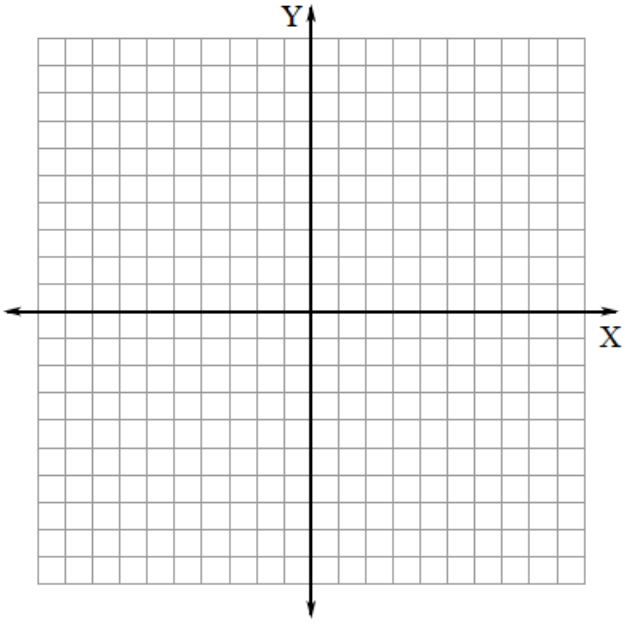


***x*-intercept(s):**

axis of symmetry: $x =$

vertex:

2. $x^2 = -9 - 6x$

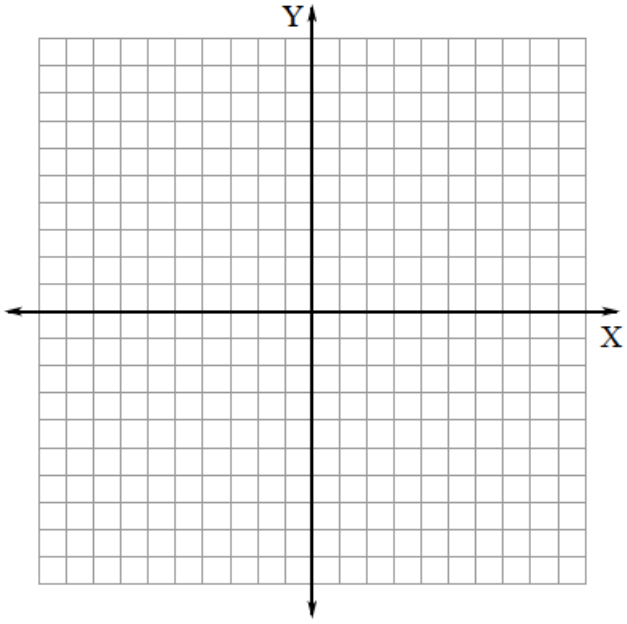


***x*-intercept(s):**

axis of symmetry: $x =$

vertex:

3. $2x^2 - 8$

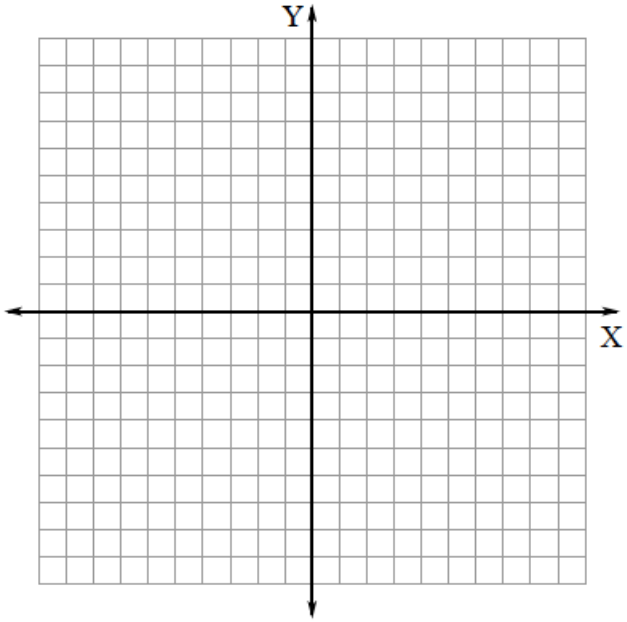


x-intercept(s):

axis of symmetry: x =

vertex:

4. $-2x^2 - 12x - 16$



x-intercept(s):

axis of symmetry: x =

vertex: