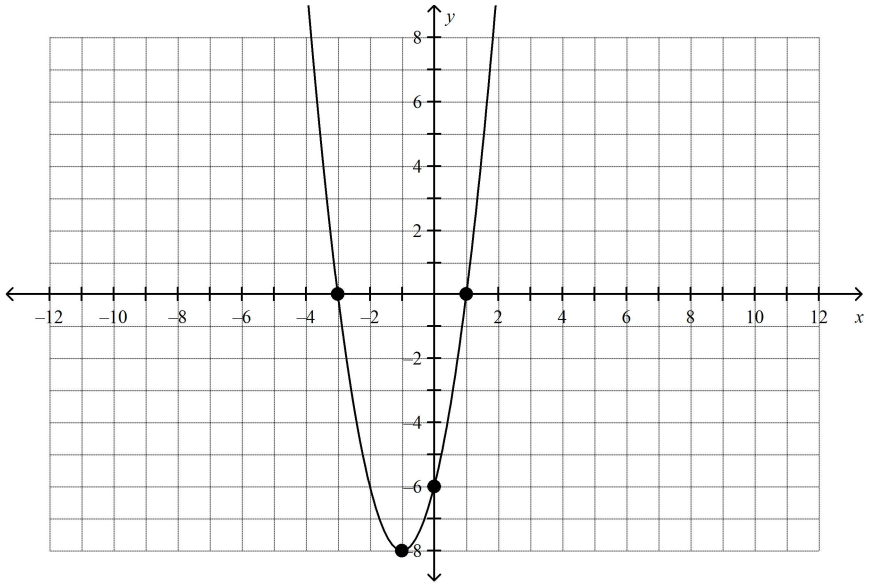
Name: _____ **Attempt:** _____ **ID: B**

Proficiency Demonstrated: Sufficient ❑ Insufficient (Repeat Assessment) ❑

MBF3C - ESPA - Quadratics Relations

1. Determine the vertex, the zeros, the y-intercept, the direction of opening and the axis of symmetry.



vertex _____ zeros _____ y-intercept _____

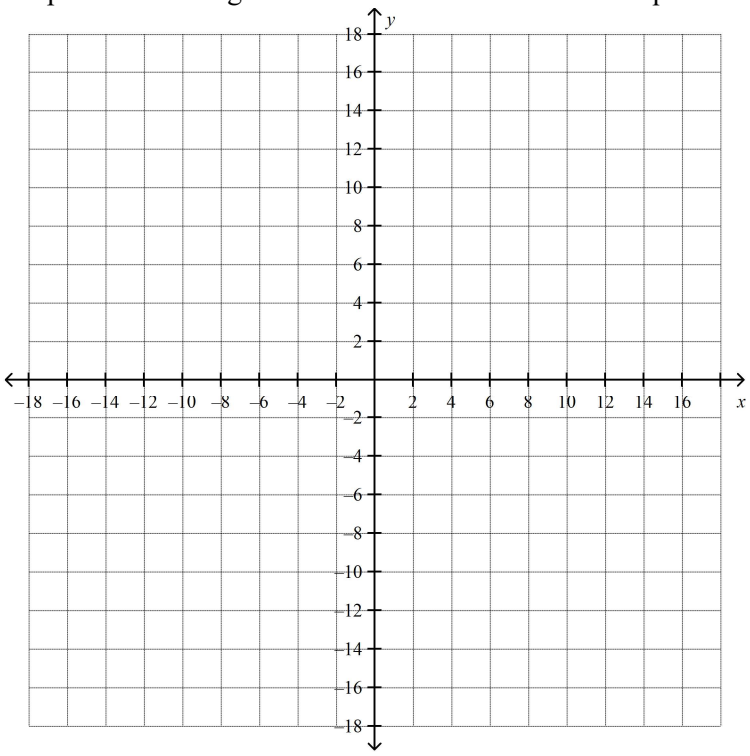
direction of opening _____ axis of symmetry _____

2. Complete the table of values for $y = 3(x-3)^2 - 3$

x	y
1	
2	
3	
4	
5	

Name: _____

3. Graph the following relation below and determine the quantities in the table: $f(x) = 5(x - 10)^2 - 2$



Vertex _____ Direction of opening _____

Axis of Symmetry _____ Step Pattern _____

4. Find the axis of symmetry and then find the vertex for the following equation:
$y = (x + 6)(x + 2)$

MBF3C - ESPA - Quadratics Relations
Answer Section

1. ANS:

   Vertex Form Solution: $y = 2(x + 1)^2 - 8$

   Standard Form Solution: $y = 2x^2 + 4x - 6$

   Factored Form Solution: $y = 2(x - 1)(x + 3)$

   Vertex: (–1 , –8)
   y-intercept: – 6
   Direction of opening: up
   Axis of symmetry: –1

   PTS: 1 TOP: Quadratics - Graphing

2. ANS:

x	y
1	9
2	0
3	–3
4	0
5	9

   PTS: 1

Name: _____ **Attempt:** _____ **ID: B**

Proficiency Demonstrated: Sufficient ❑ Insufficient (Repeat Assessment) ❑

MBF3C - ESPA - Quadratics II

1. Expand and simplify $(x+2)(3x+4)$

2. Factor $x^2 - 4$

3. Determine the greatest common factor.

   $-2x^2 + 8x$

4. Expand and simplify $(x-3)^2$

5. Factor.
   $x^2 + 6x + 8$

6. Convert vertex form to standard form.

   $y = -4(x+1)^2 - 2$

MBF3C - ESPA - Quadratics II
Answer Section

1. ANS:
   $3x^2 + 10x + 8$

   PTS: 1
2. ANS:
   (x - 2)(x + 2)

   PTS: 1
3. ANS:
   y = –2x(x –4)

   PTS: 1
4. ANS:
   x^2 –6x +9

   PTS: 1
5. ANS:
   (x +4)(x +2)

   PTS: 1
6. ANS:
   $y = -4x^2 - 8x - 6$

   PTS: 1