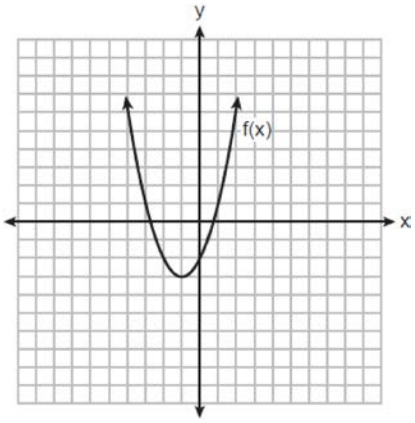
F.IF.C.7: Graphing Quadratic Functions 1

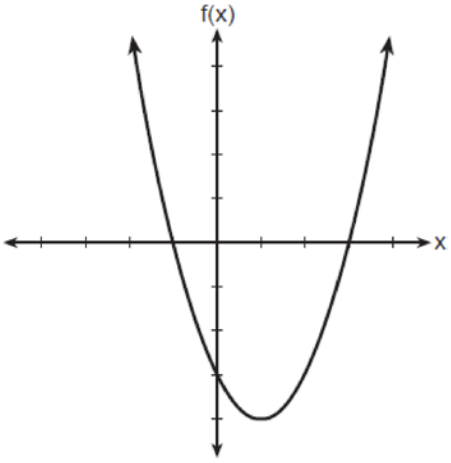
1 The function $f(x)$ is graphed on the set of axes below.



What is the equation of the axis of symmetry for $f(x)$?

1) $x = -1$
2) $x = -3$
3) $y = -1$
4) $y = -3$

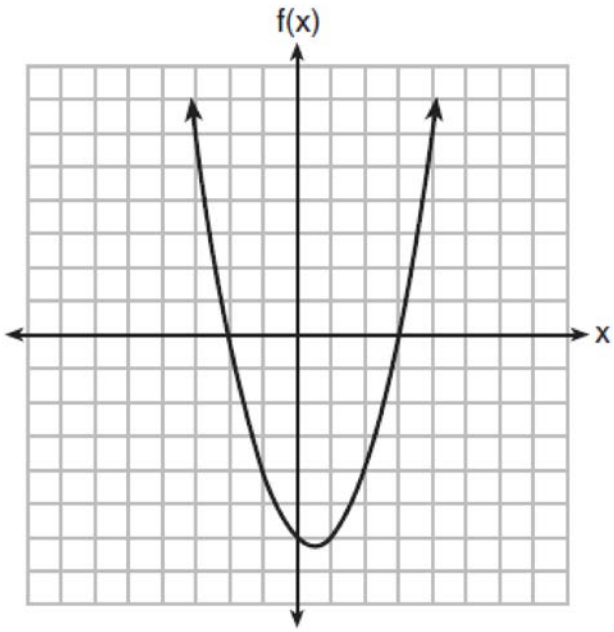
2 The function f is graphed on the set of axes below.



What is a possible factorization of this function?

1) $f(x) = (x-1)(x+3)$
2) $f(x) = (x+1)(x-3)$
3) $f(x) = (x+1)(x-4)$
4) $f(x) = (x-1)(x+4)$

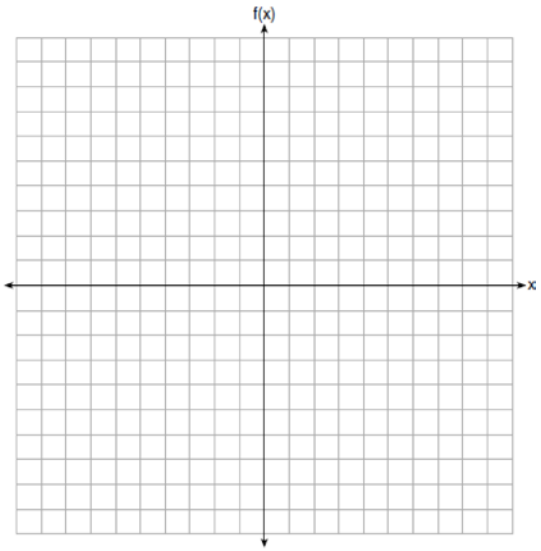
3 The graph of the function $f(x) = ax^2 + bx + c$ is given below.



Could the factors of $f(x)$ be $(x+2)$ and $(x-3)$? Based on the graph, explain why or why *not*.

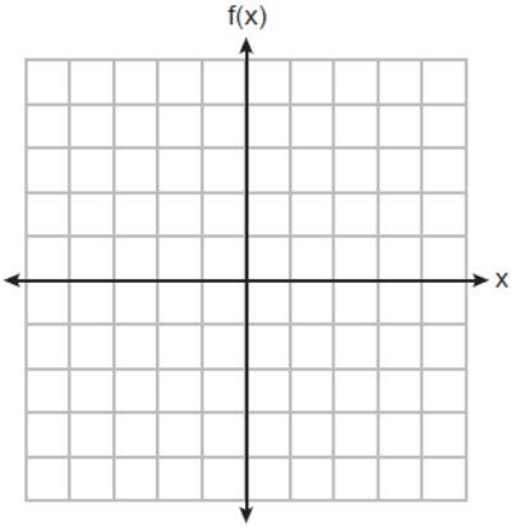
4 If the zeros of a quadratic function, F, are -3 and 5, what is the equation of the axis of symmetry of F? Justify your answer.

5 Graph the function $f(x) = -x^2 - 6x$ on the set of axes below.



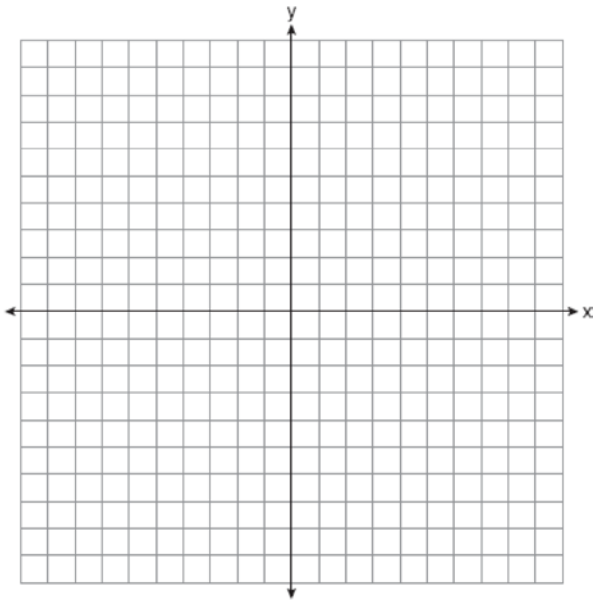
State the coordinates of the vertex of the graph.

6 Graph the function $f(x) = x^2 + 4x + 3$.



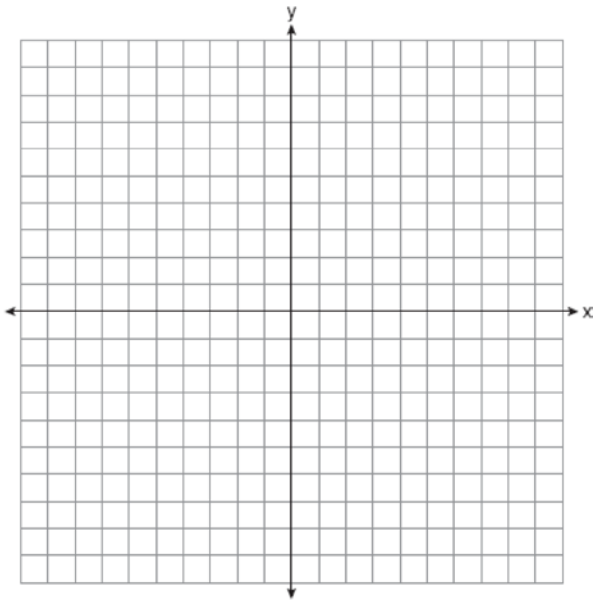
State the equation of the axis of symmetry of $f(x)$.

7 On the set of axes below, draw the graph of $y = x^2 - 4x - 1$.



State the equation of the axis of symmetry.

8 On the set of axes below, graph $f(x) = x^2 + 4x + 1$.



State the coordinates of the minimum.

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Answer Section

1 ANS: 1 REF: 012413ai

2 ANS: 2 REF: 082315ai

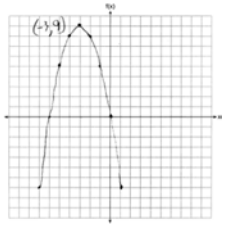
3 ANS:
Yes, because from the graph the zeroes of $f(x)$ are –2 and 3.

REF: 011832ai

4 ANS:
$x = 1 \quad \frac{-3+5}{2} = 1$

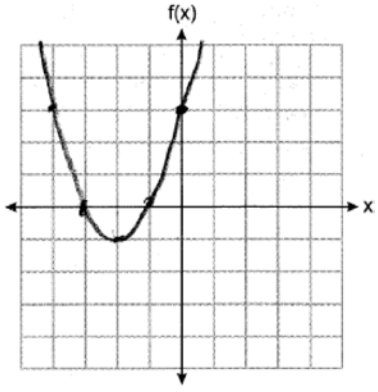
REF: 011829ai

5 ANS:



REF: 061726ai

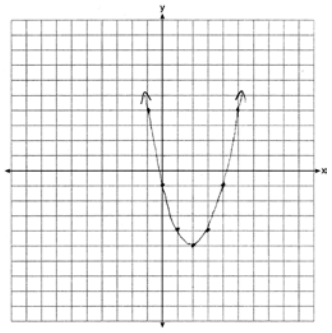
6 ANS:



$x = -2$

REF: 012526ai

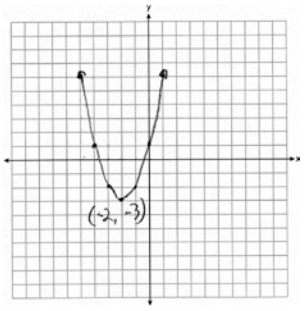
7 ANS:



$x = \frac{-b}{2a} = \frac{-(-4)}{2(1)} = \frac{4}{2} = 2$

REF: 061627ai

8 ANS:



REF: 082425ai