OPMT 5701 Homework 2: Lines and Quadratic Equations
BBA program Review Section 2.1 of Jacques (6th ed)

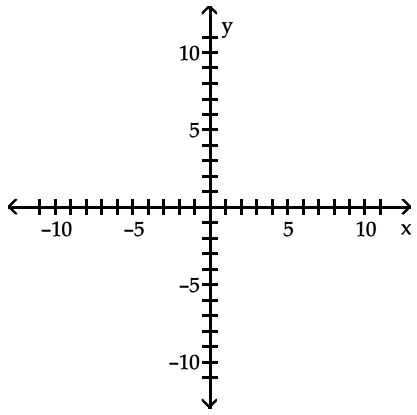
Note: Vertex means "top or bottom"

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

1) (a) Sketch the graph of $y = f(x) = 2x + 6$. (b) Determine the intercepts. State (c) the domain and (d) the range of f.

2) Sketch the graph of $f(x) = x^2 - 2x$. Also determine the intercepts.

3) For the straight line $2x + y - 3 = 0$ find: (a) the slope; (b) the y–intercept; and (c) sketch the graph.



4) Find an equation of the line that passes through the origin and that has slope –5.

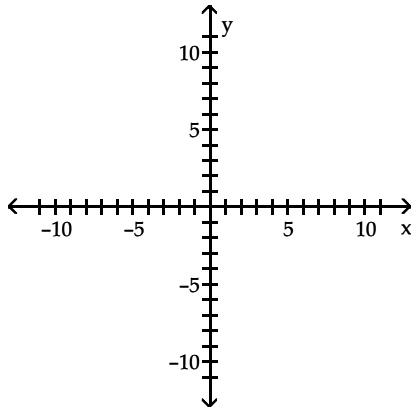
5) Find the slope–intercept form of an equation of the line that passes through the point (2, 0) and has slope 4.

6) Solve: $x^2 - 7x - 8 = 0$

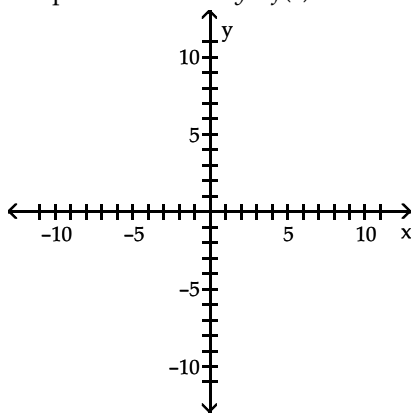
7) Solve: $9x^2 - 4 = 0$

8) Solve: $x^2 - 6x + 9 = 0$

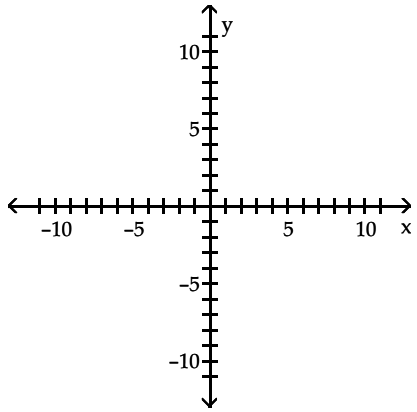
9) Graph the function $y = f(x) = x^2 - 6x$ and indicate the coordinates of the vertex and intercepts.



10) Graph the function $y = f(x) = x^2 - 6x + 5$ and indicate the coordinates of the vertex and intercepts.



11) Graph the function $y = f(x) = 3 - 2x - x^2$ and indicate the coordinates of the vertex and intercepts.



12) State whether $f(x) = 12x^2 - 24x + 10$ has maximum or minimum value and find that value.

13) State whether $f(x) = 10 + 16x - 4x^2$ has maximum or minimum value and find that value.