(A) Lesson Objectives

a. Review factoring, solving, graphing of quadratic expressions (a ≠ 1, perfect squares)
b. Understand the connection between the coefficients of the equation & the axis of symmetry
c. Write equations of quadratic functions from graphs

(B) Zero Product Property

If the product of two variables is zero, then …..

If $a \times b = 0$, then …..

(C) Examples (to illustrate factoring, solving, graphing & connection

a. Given the quadratic expression $2x^2 + 5x - 3$

Factor $2x^2 + 5x - 3$	Solve $2x^2 + 5x - 3 = 0$	Graph $f(x) = 2x^2 + 5x - 3$	Vertex: Axis of Symmetry: Coefficient a = Coefficient b =

b. Given the quadratic expression $3x^2 + x - 10$

Factor $3x^2 + x - 10$	Solve $3x^2 + x - 10 = 0$	Graph $f(x) = 3x^2 + x - 10$	Vertex: Axis of Symmetry: Coefficient a = Coefficient b =

c. Given the quadratic expression $4x^2 - 12x + 9$

Factor $4x^2 - 12x + 9$	Solve $4x^2 - 12x + 9 = 0$	Graph $f(x) = 4x^2 - 12x + 9$	Vertex: Axis of Symmetry: Coefficient a = Coefficient b =

d. Given the quadratic expression $6x^2 + 5x - 6$

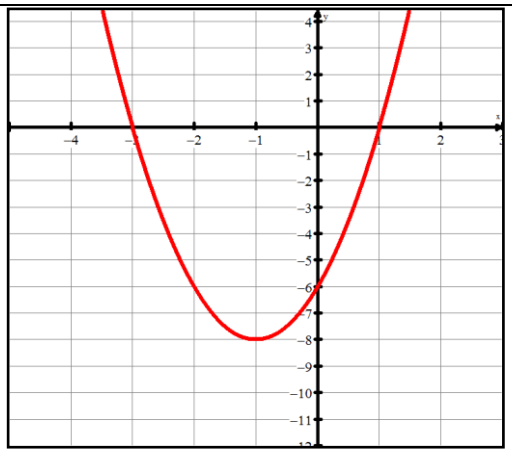
Factor $6x^2 + 5x - 6$	Solve $6x^2 + 5x - 6 = 0$	Graph $f(x) = 6x^2 + 5x - 6$	Vertex: Axis of Symmetry: Coefficient a = Coefficient b =

e. Given the quadratic expression $6x^2 + 7x - 20$

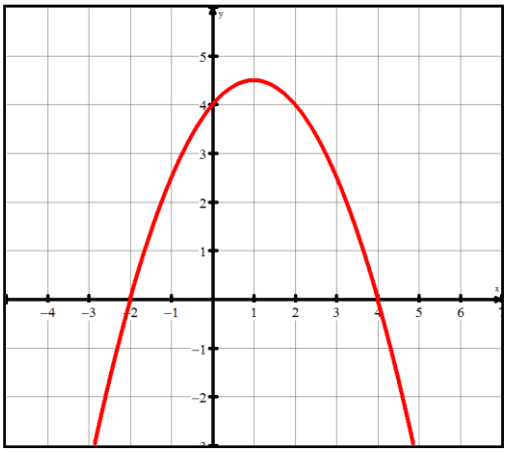
Factor $6x^2 + 7x - 20$	Solve $6x^2 + 7x - 20 = 0$	Graph $f(x) = 6x^2 + 7x - 20$	Vertex: Axis of Symmetry: Coefficient a = Coefficient b =

(D) Determining Equations from Graphs

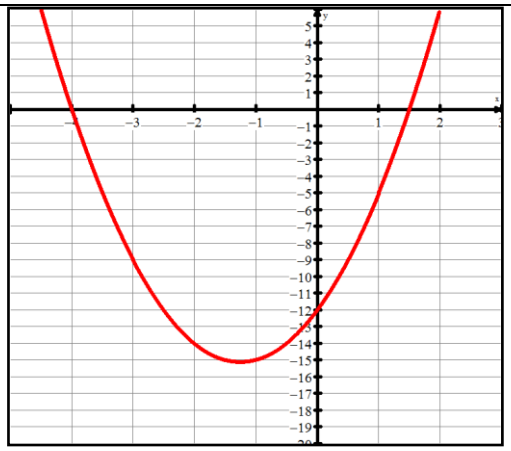
a.



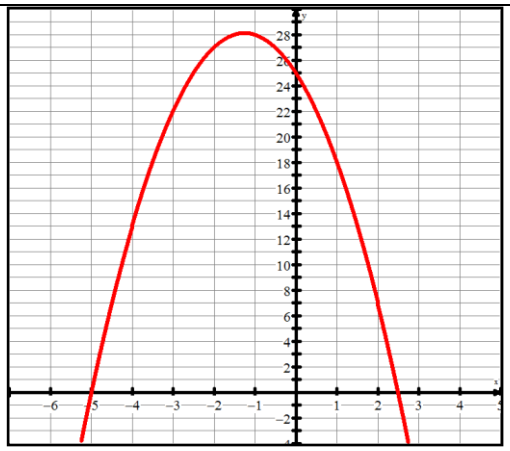
b.



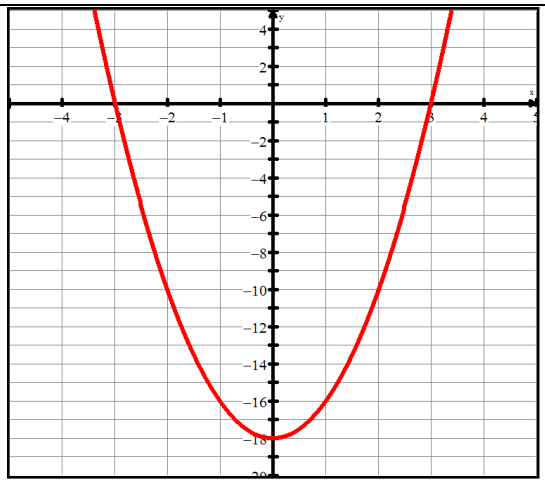
c.



d.



e.



f.