b) $f(x) = (x + 5)(x - 9)$

Zeros:

$\_\_x\_\_ + \_\_5\_\_ = 0$ and $\_\_x\_\_ - \_\_9\_\_ = 0$

$x + 5 = 0$ $x - 9 = 0$

$x = -5$ $x = 9$

$SS = \{-5, 9\}$

Axis of symmetry: $x = \_\_2\_\_$

Minimum:

$f(\_\_2\_\_) = (\_\_2\_\_ + 5)(\_\_2\_\_ - 9)$

$y = (7)(-7)$

$y = -49$

vertex $(2, -49)$

c) $f(x) = (2x + 3)(8 - x)$

Zeros:

$\_\_2x\_\_ + \_\_3\_\_ = 0$ and $\_\_\_\_ - \_\_\_\_ = 0$

$2x = -3$

$x = -\frac{3}{2}$

$SS = \{-\frac{3}{2}, 8\}$

Axis of symmetry: $x = \_\_6.5\_\_$

Maximum:

$f(\_\_6.5\_\_) = (2\_\_6.5\_\_ + 3)(8 - \_\_6.5\_\_)$

$y = (16)(1.5)$

$y = 24$

vertex $(6.5, 24)$

d) $f(x) = x^2 + 7x + 10$

$\_\_\_ = \_\_\_\_\_$

Zeros:

$\_\_\_\_\_ = 0$ and $\_\_\_\_\_ = 0$

Axis of symmetry: $x = \_\_\_$

Minimum:

$f(\_\_\_\_) = \_\_\_\_\_$

d) $f(x) = x^2 + 7x + 10$

$y = (x+2)(x+5)$

Zeros:

$x+2 = 0$ and $x+5 = 0$

$SS = \{-2, -5\}$

$\frac{(-2)+(-5)}{2} = -3.5$

Axis of symmetry: $x = -3.5$

Minimum:

$f(y) = (-3.5+2)(-3.5+5)$

$y = (-1.5)(1.5)$

$y = -2.25$

vertex $(-3.5, -2.25)$

TURN

e) $f(x) = -x^2 + 25$

___ = _____

Zeros:

_____ = 0 and _____ = 0

Axis of symmetry: $x =$ ___

Maximum:

$f($___$) =$ _____

e) $f(x) = -x^2 + 25$

$y = -1x^2 - 0 + 25$

$= -1(x^2 - 25)$

Zeros:

$(x+5)$ = 0 and $(x-5)$ = 0

$55 = \{-5, 5\}$

Axis of symmetry: $x =$ 0

Maximum:

$f(\_\_) = -0^2 + 25$

$y = 25$

vertex $(0, 25)$

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

Zeros:

____ = 0 and ____ = 0

Axis of symmetry: $x =$ ____

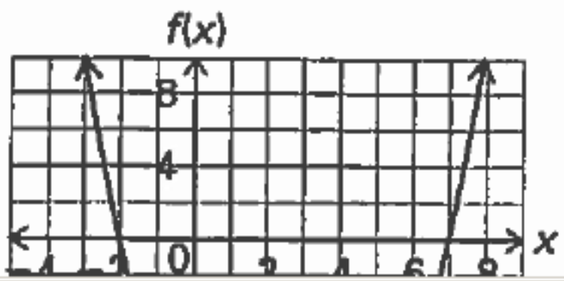
Minimum:

$f(\_\_) =$ ____

12. i) Use the graph of each quadratic function to find the zeros.

ii) Use the given point to write the factored form and standard form.

a)



Factored form:

$f(x) = a(x - \_\_\_\_)(x - \_\_\_\_)$

____ = ____

Standard form:

$f(x) =$ ____

____ = ____

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

___ = _____

Zeros:

___ = 0 and ___ = 0

Axis of symmetry: $x =$ _____

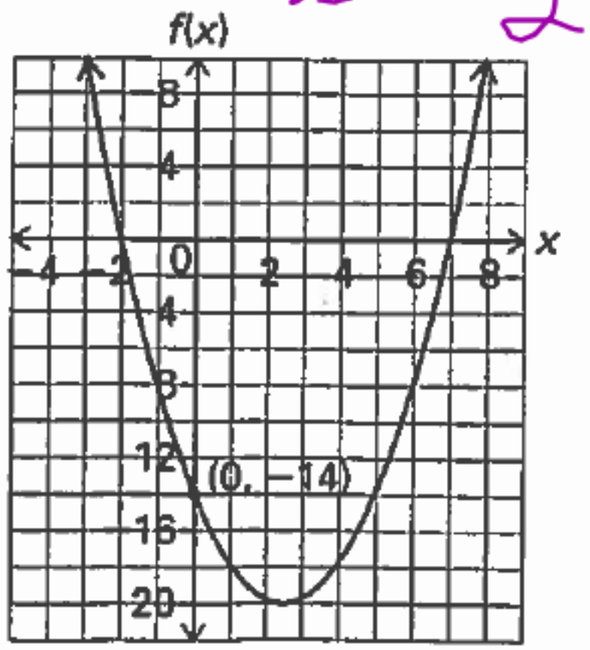
Minimum:

$f($___$) =$ _____

12. i) Use the graph of each quadratic function to find the zeros.

ii) Use the given point to write the factored form and standard form.

a)



Zeros:

$x =$ ___ and $x =$ ___

Factored form:

$f(x) = a(x -$ ___$)(x -$ ___$)$

___ = _____

Solve for a:

___ = a(___)(___)

___ = _____

___ = _____

___ = _____

Standard form:

$f(x) =$ _____

___ = _____

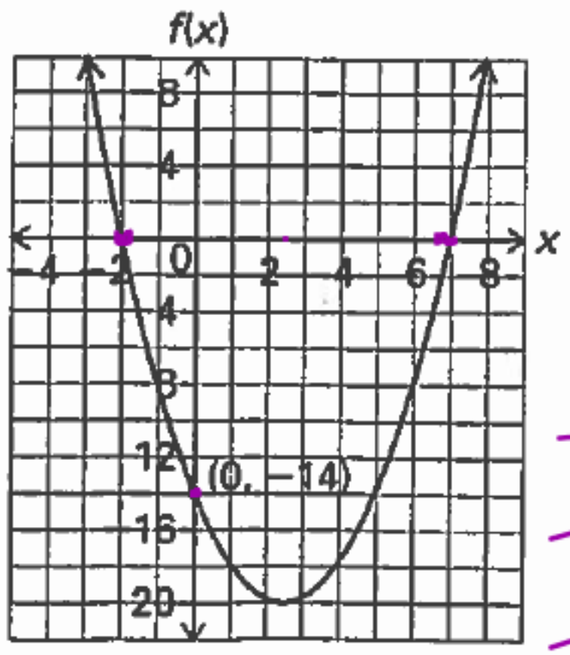
___ = _____

12. i) Use the graph of each quadratic function to find the zeros.

$y = 1(x+1)(x-7)$

ii) Use the given point to write the factored form and standard form.

a)



Zeros:

$x = -2$ and $x = 7$

Factored form:

$f(x) = a(x - (-2))(x - 7)$

$y = a(x+2)(x-7)$

Solve for a:

$-20 = a(x+2)(x-7)$

$-20 = a(x^2 - 7x + 2x - 14)$

$-20 = a(x^2 - 5x - 14)$

vertex $= (2.5, -20)$ (x, y)

$-20 = a(2.5^2 - 5(2.5) - 14)$

$-20 = a(6.25 - 12.5 - 14)$

$-20 = a(-20.25)$

$\frac{-20}{-20.25} = \frac{a(-20.25)}{-20.25}$

$a = 1$

Standard form:

$f(x) = (x+2)(x-7)$

$y = x^2 - 7x + 2x - 14$

$y = x^2 - 5x - 14$