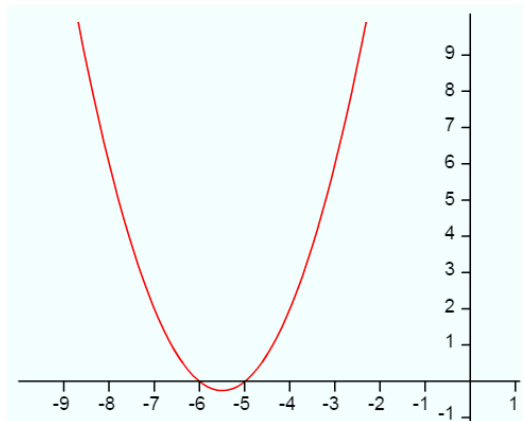


Warm-up 3/10/17

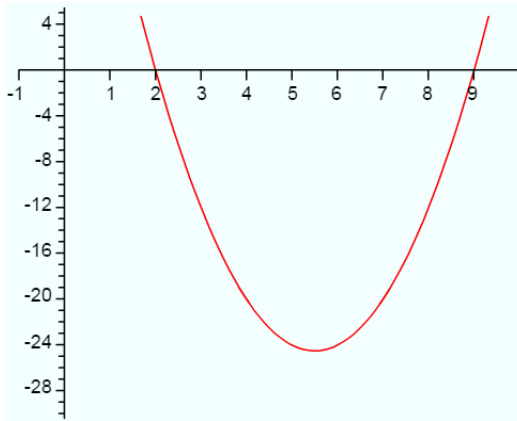
Use the graphs to write each function in factored form.

$$f(x) = x^2 + 11x + 30$$



$$(x + 6)(x + 5)$$

$$g(x) = 2x^2 - 22x + 36$$



$$2(x - 2)(x - 9)$$

Pg. 902

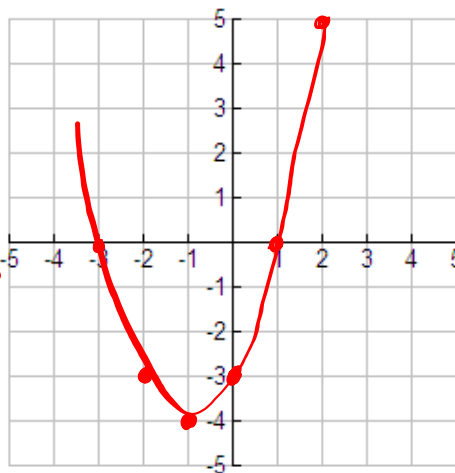
1a

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

x	f(x)
-2	-3
-1	-4
0	-3
1	0
2	5

$$(-2)^2 + 2(-2) - 3$$

$$4 - 4 - 3$$



Parabola Opens:  $\cup P$

zero(s):  $(1, 0), (-3, 0)$

Vertex:  $(-1, -4)$

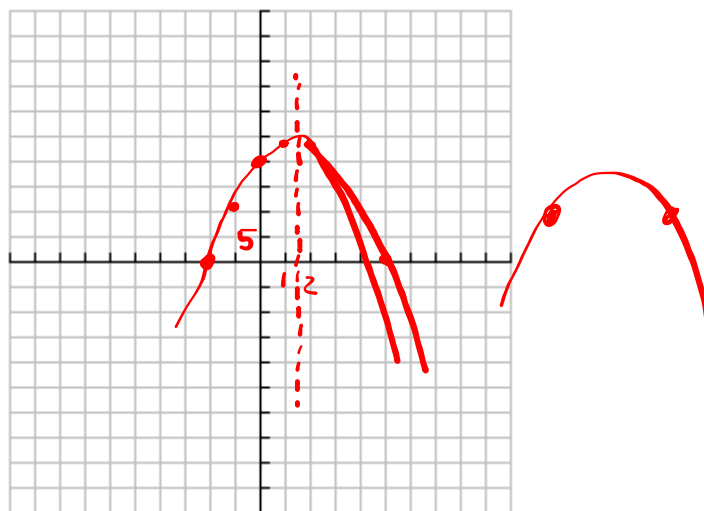
y-intercept:  $(0, -3)$

Pg. 903

1b

$$f(x) = -2x^2 + 6x + 20$$

x	f(x)
-2	0
-1	12
0	20
1	24
2	24



Parabola Opens: **down** zero(s):  **$(-2, 0)$   $(5, 0)$**

Vertex:  **$(1.5, 24.5)$**  y-intercept:  **$(0, 20)$**

Pg. 903

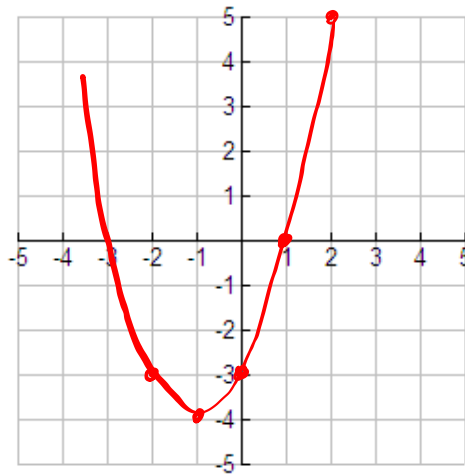
2

Pg. 904

3a

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

x	f(x)
-2	-3
-1	-4
0	-3
1	0
2	5



Parabola Opens:  $\cup P$  zero(s):  $(1, 0)$   $(-3, 0)$

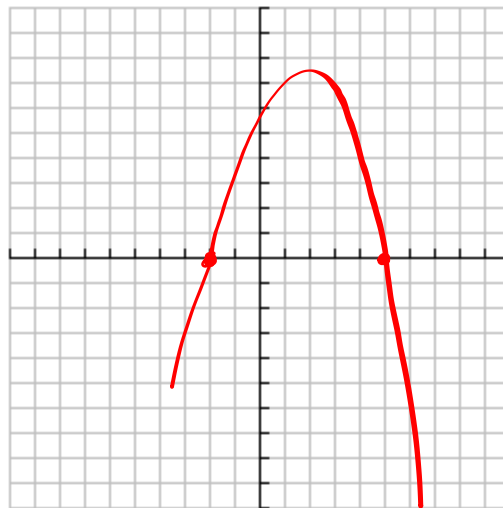
Vertex:  $(-1, -4)$  y-intercept:  $(0, -3)$

Pg. 905

3b

$$f(x) = -2(x+2)(x-5)$$

x	f(x)
-2	0
-1	12
0	20
1	24
2	24



Parabola Opens:  $\cap$  down zero(s):  $(-2, 0)$   $(5, 0)$

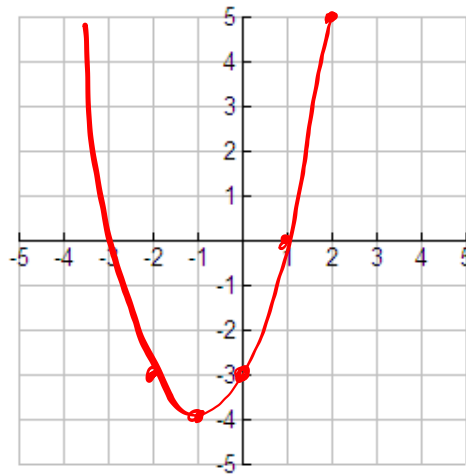
Vertex:  $(1.5, 24.5)$  y-intercept:  $(0, 20)$

Pg. 906

6a

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

x	f(x)
-2	-3
-1	-4
0	-3
1	0
2	5

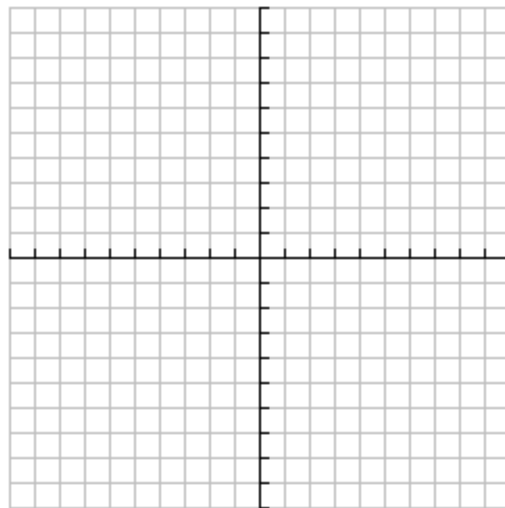
Parabola Opens: *up*zero(s): *(1, 0) (-3, 0)*Vertex: *(-1, -4)*y-intercept: *(0, -3)*

Pg. 907

6b

$$f(x) = -2(x - 1.5)^2 + 24.5$$

x	f(x)
-2	0
-1	12
0	20
1	24
2	24

Parabola Opens: *down* zero(s):Vertex: *(1.5, 24.5)* y-intercept:

Standard Form

$$f(x) = ax^2 + bx + c$$

y-intercept: (0, c)

$a > 0$  opens up

$a < 0$  opens down

Factored Form

$$f(x) = a(x - r_1)(x - r_2)$$

x-intercepts:  $(r_1, 0)$ ,  $(r_2, 0)$

or zeros

Vertex Form

$$f(x) = a(x - h)^2 + k$$

vertex: (h, k)

Pg. 910

3