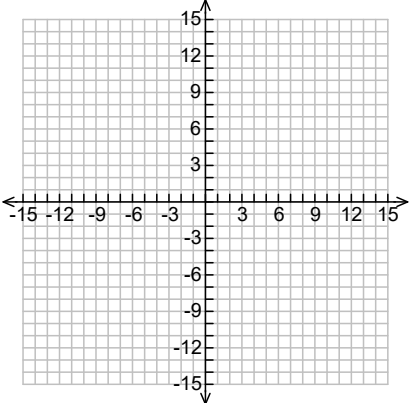
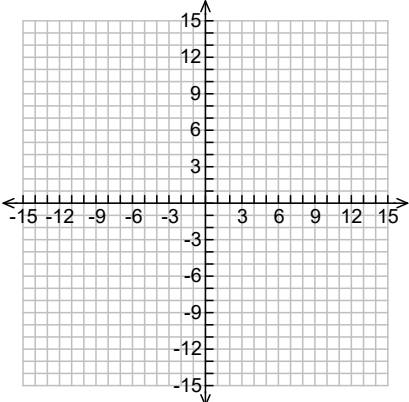
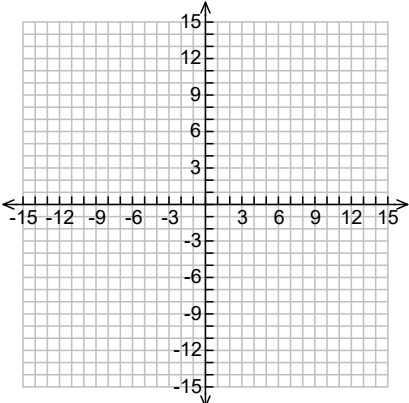


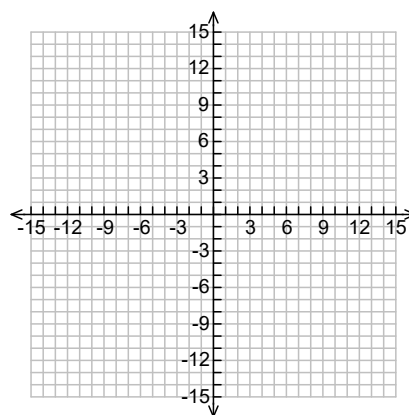
MCF 3M1 Transformations

Complete the chart.

| Quadratic Function | State the Transformations | Sketch the Transformations |
|---|---------------------------|---|
| 1. $y = x^2 + 5$ | |  |
| 2. $y = 2x^2 - 12x + 18$ <i>complete sq. 1st ☺</i> | |  |
| 3. $y = \frac{1}{2}x^2 + 6x + 15$ | |  |

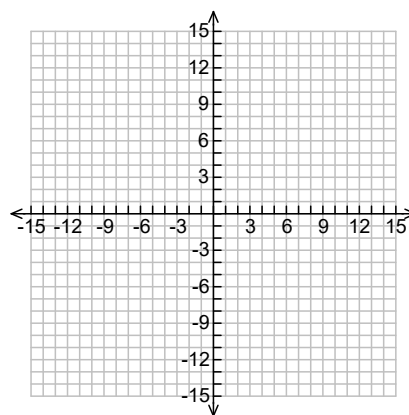
4.

$$y = -4x^2 - 40x - 96$$



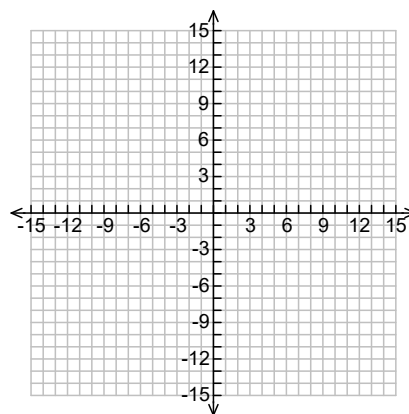
5.

$$y = -x^2 - 6x - 15$$



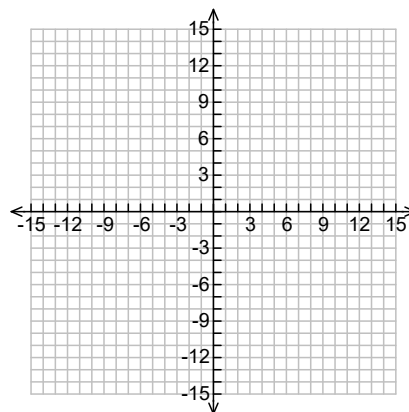
6.

$$y = -\frac{1}{2}x^2 - 5x - \frac{21}{2}$$



7.

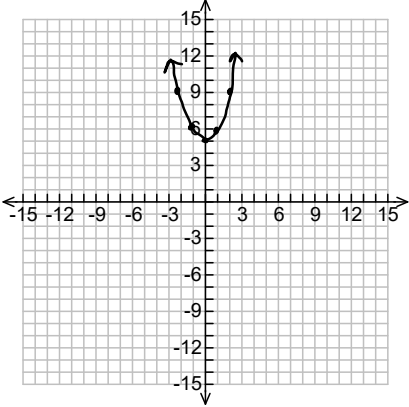
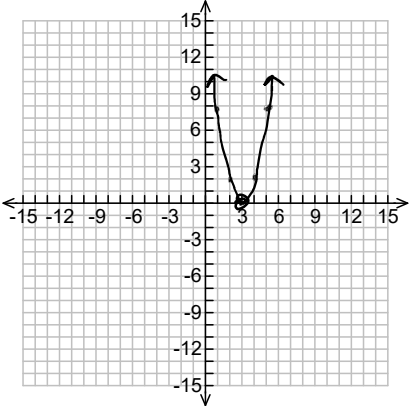
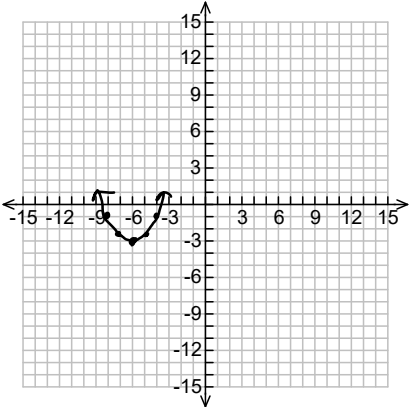
$$y = -3x^2 + 30x - 73$$



MCF 3M1
Transformations

ANSWERS

Complete the chart.

| Quadratic Function | State the Transformations | Sketch the Transformations |
|---|---|---|
| <p>1.</p> $y = x^2 + 5$ <p>vertex (0,5)</p> | <p>up 5</p> |  |
| <p>2.</p> $y = 2x^2 - 12x + 18$ $y = 2(x - 3)^2$ <p>vertex (3,0)</p> | <p>vertical stretch by 2 shift right 3</p> |  |
| <p>3.</p> $y = \frac{1}{2}x^2 + 6x + 15$ $y = \frac{1}{2}(x + 6)^2 - 3$ <p>vertex (-6, -3)</p> | <p>vertical compress $\frac{1}{2}$ left 6 down 3</p> |  |

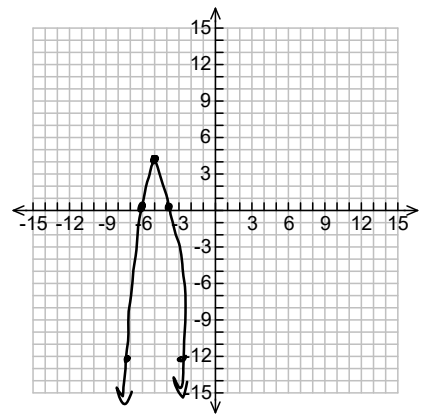
4.

$$y = -4x^2 - 40x - 96$$

$$y = -4(x+5)^2 + 4$$

$$\text{Vertex}(-5, 4)$$

reflect in x-axis
vertical stretch
left 5
up 4



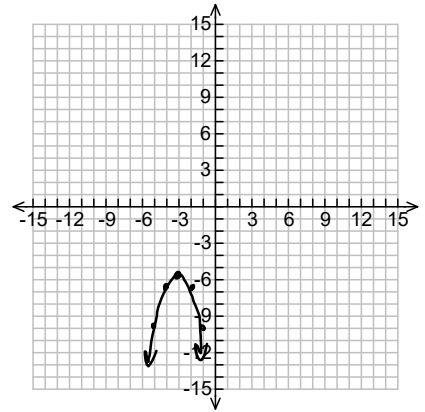
5.

$$y = -x^2 - 6x - 15$$

$$y = -(x+3)^2 - 6$$

$$\text{Vertex}(-3, -6)$$

reflected in x-axis
left 3
down 6



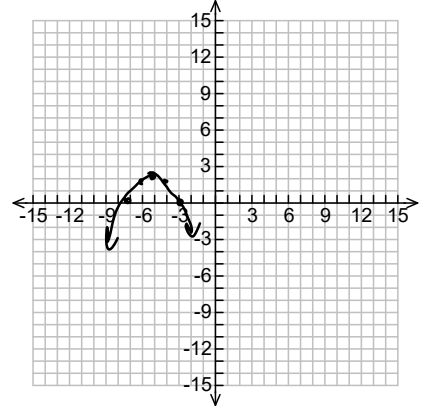
6.

$$y = -\frac{1}{2}x^2 - 5x - \frac{21}{2}$$

$$y = -\frac{1}{2}(x+5)^2 + 2$$

$$\text{Vertex}(-5, 2)$$

reflect in x-axis
vertical compress
left 5
up 2



7.

$$y = -3x^2 + 30x - 73$$

$$y = -3(x-5)^2 + 2$$

$$\text{Vertex}(5, 2)$$

reflect in x-axis
vertical stretch
right 5
up 2

