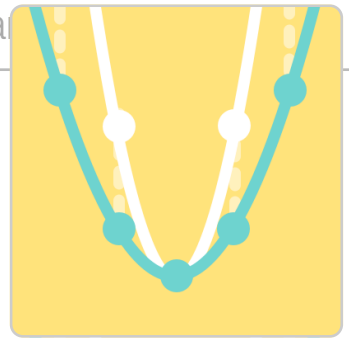
Mark Clark

Sea

Teacher Guide



# Quadratic Transformations – Part 2

by Mary Bourassa | 45-60 minutes | Development

*Edited with love by Desmos*

Mobile Tablet Laptop

This activity allows students to investigate reflecting and scaling the graph of $y = x^2$. Combinations of transformations leading to graphs in the form $y = a(x - h)^2 + k$ are then explored.

This activity follows up on Quadratic Transformations – Part 1: https://teacher.desmos.com/activitybuilder/custom/5626bd086053147c0df2fb

## Classes

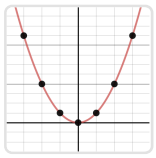
Create Code

Loading...

## Screens

Preview

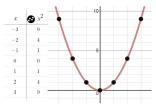
**1** Notice the …



The graph of $y = x^2$ is shown.

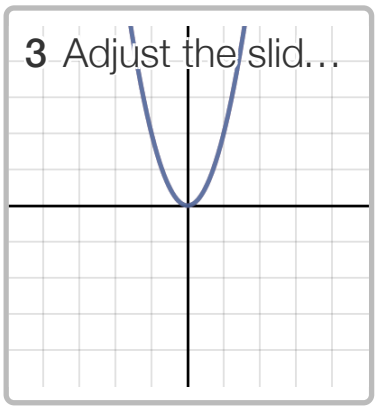
*f(x)*

**2**



Predict what the graph of

**3** Adjust the slid…



**4**

| $x$ | $x^2$ | $-x^2$ |
|---|---|---|
| −3 | 9 | −9 |
| −2 | 4 | −4 |
| −1 | 1 | −1 |
| 0 | 0 | 0 |
| 1 | 1 | −1 |
| 2 | 4 | −4 |
| 3 | 9 | −9 |

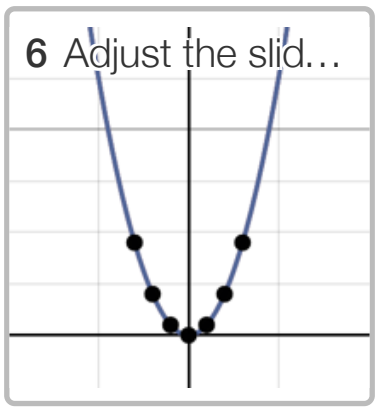
Is the negative sign in

**5**

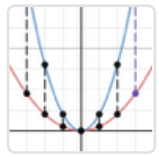
| $x$ | $x^2$ | $2x^2$ |
|---|---|---|
| −3 | 9 | |
| −2 | 4 | |
| −1 | 1 | |
| 0 | 0 | |
| 1 | 1 | |
| 2 | 4 | |
| 3 | 9 | |

Predict what the graph of

**6** Adjust the slid…



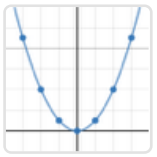
**7** Fill in the bl…



The graph of $y = x^2$ is shown

*f(x)*

**8**



Write an equation of the

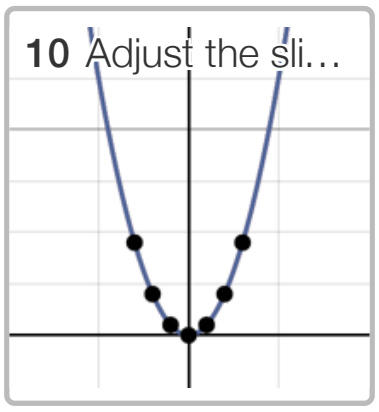
*f(x)*

**9**

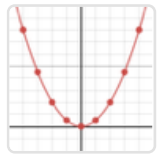
| $x$ | $x^2$ | $0.5x^2$ |
|---|---|---|
| −3 | 9 | |
| −2 | 4 | |
| −1 | 1 | |
| 0 | 0 | |
| 1 | 1 | |
| 2 | 4 | |
| 3 | 9 | |

Predict what the graph of

**10** Adjust the sli…



**11** Fill in the …



The point $(4,16)$ is on the

*f(x)*

**12**

Write an equation of the

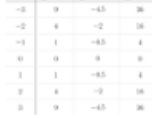
*f(x)*

**13** Fill in the …

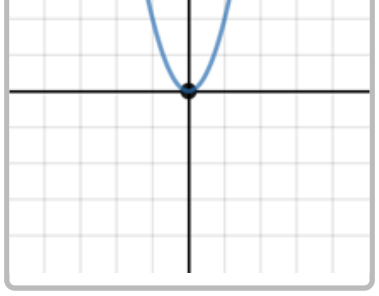
**14** Adjust th…

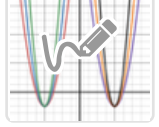
**15** Adjust the sli…

**16**



Compared to the graph of





Which colour shows the

**17**

Write the equation for a transformed version of $y = x^2$ that meets

**18** Write equ…