

A concept Review:

To find the distance between points (x_1, y_1) and (x_2, y_2) . We use the distance formula:

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Find the distance between $(1, 4)$ and $(-3, 6)$.

$$d = \sqrt{(6-4)^2 + (-3-1)^2} = \sqrt{4+16} = \sqrt{20} = 4.47$$

More Transformations of Quadratic Functions:

Describe the Transformations

1. $g(x) = \frac{1}{3}x^2$ Vertical Shrink by 1/3
2. $f(x) = \left(\frac{1}{2}x - 3\right)^2 + 5$ Translate 3 Right – Horizontal Stretch Factor of 2 – Up 5
3. $h(x) = (3x + 6)^2 - 2$ Translate Left 6 – Vertical Shrink 1/3 – Down 2
4. $f(x) = \frac{1}{5}x^2 - 4$ Vertical Shrink 1/5 – Down 4
5. $k(x) = \left(-\frac{1}{3}x - 1\right)^2 + 2$ Right 1 – Reflect in y – Horiz Stretch Factor 3 – Up 2
6. $f(x) = -2x^2 + 5$ Vertical Stretch Factor 2 – Reflect in x – Up 5
7. $f(x) = -3\left(-\frac{1}{4}x + 3\right)^2 + 4$ Refl in x – Factor 4 Vert Stretch – 3 Left – Refl in y – Factor 4 Horiz Stretch
– Up 4
8. $f(x) = -\left(\frac{1}{4}x + 1\right)^2 - 3$ Refl in x – 1 Left – Factor 4 Horiz Stretch – Down 3

Assignment 110

02.01 Transformations of Quadratic Functions

Page 52 #'s 3, 6, 10, 12, 16, 18, 20, 22, 24, 28, 30, 33