

Transformations Practice #2

#5

For #1-11, describe how the parent function $y = x^2$ was transformed to create each given function. (Remember, $y = f(x) \rightarrow$ they're the same thing)

1. $y = (x - 3)^2 + 4$ _____

2. $f(x) = (x + 5)^2$ _____

3. $y = (4x)^2$ _____

4. $f(x) = 6x^2$ _____

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

6. $f(x) = \left(\frac{1}{3}x\right)^2$ _____

7. $y = (-2x - 1)^2$ _____

8. $f(x) = .17x^2 + 5$ _____

9. $y = (x + .5)^2 - 9$ _____

10. $f(x) = -3x^2$ _____

11. $y = -x^2 - 3$ _____

12. What is the effect on the graph of the equation $y = x^2 + 1$ when it is changed to $y = x^2 - 2$?

13. How would you translate the graph of $y = x^2 - 3$ to produce $y = (x + 2)^2 - 1$?

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#5

For #1-11, describe how the parent function $y = x^2$ was transformed to create each given function. (Remember, $y = f(x) \rightarrow$ they're the same thing)

1. $y = (x - 3)^2 + 4$ right 3, up 4

2. $f(x) = (x + 5)^2$ left 5

3. $y = (4x)^2$ horizontal shrink by $\frac{1}{4}$

4. $f(x) = 6x^2$ vertical stretch by 6

5. $y = -(x + 2)^2 - 3$ reflect over x-axis, left 2, down 3

6. $f(x) = \left(\frac{1}{3}x\right)^2$ horizontal stretch by 3

7. $y = (-2x - 1)^2$ reflect over y-axis, horizontal shrink by $\frac{1}{2}$, right 1

8. $f(x) = .17x^2 + 5$ vertical shrink by 0.17, up 5

9. $y = (x + .5)^2 - 9$ left 0.5, down 9

10. $f(x) = -3x^2$ reflect over x-axis, vertical stretch by 3

11. $y = -x^2 - 3$ reflect over x-axis, down 3

12. What is the effect on the graph of the equation $y = x^2 + 1$ when it is changed to $y = x^2 - 2$?



shift down 3

13. How would you translate the graph of $y = x^2 - 3$ to produce $y = (x + 2)^2 - 1$?



shift left 2 +