

Ready, Set, Go!

Ready

Topic: Converting measurement of area, area and perimeter.

While working with areas it sometimes essential to convert between units of measure, for example changing from square yards to square feet and so forth. Convert the areas below to the desired measure.

(Hint: area is two dimensional, for example $1 \text{ yd}^2 = 9 \text{ ft}^2$ because 3 ft along each side of a square yard equals 9 square feet.)

- | | | | | | |
|----|------------------------------------|----|-------------------------------------|----|-------------------------------------|
| 1. | $7 \text{ yd}^2 = ? \text{ ft}^2$ | 2. | $5 \text{ ft}^2 = ? \text{ in}^2$ | 3. | $1 \text{ mile}^2 = ? \text{ ft}^2$ |
| 4. | $100 \text{ m}^2 = ? \text{ cm}^2$ | 5. | $300 \text{ ft}^2 = ? \text{ yd}^2$ | 6. | $96 \text{ in}^2 = ? \text{ ft}^2$ |

Set

Topic: Transformations and Parabolas, Symmetry and Parabolas

7. Graph each of the quadratic functions.

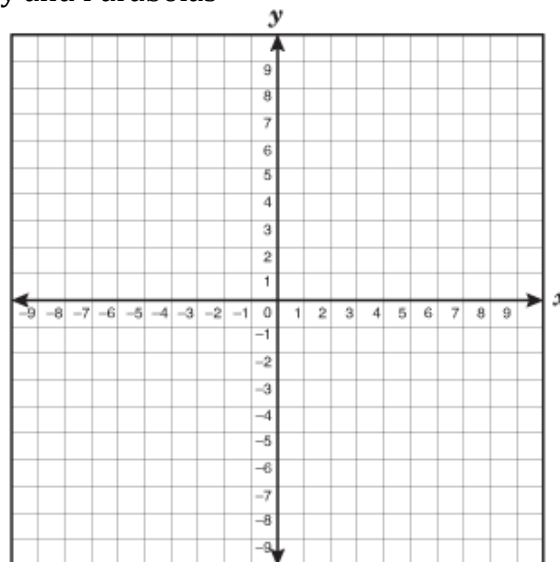
$$f(x) = x^2$$

$$g(x) = x^2 - 9$$

$$h(x) = (x + 2)^2 - 9$$

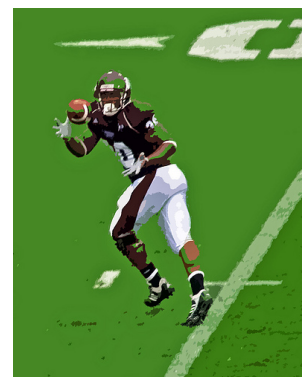
How do the functions compare to each other?

How do $g(x)$ and $h(x)$ compare to $f(x)$?



8. Look back at the functions above and identify the x-intercepts of $g(x)$. What are they? What are the coordinates of the points corresponding to the x-intercepts in $g(x)$ in each of the other functions?

How do these coordinates compare to one another?



9. Graph each of the quadratic functions.

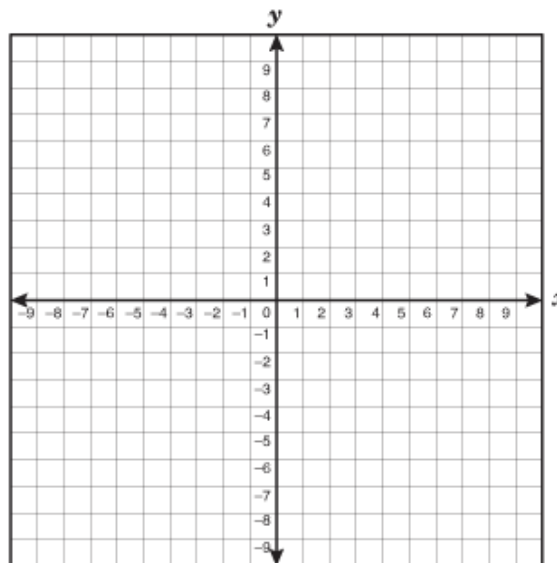
$$f(x) = x^2$$

$$g(x) = x^2 - 4$$

$$h(x) = (x - 1)^2 - 4$$

How do the functions compare to each other?

How do $g(x)$ and $h(x)$ compare to $f(x)$?



10. Look back at the functions above and identify the x-intercepts of $g(x)$. What are they? What are the coordinates of the points corresponding to the x-intercepts in $g(x)$ in each of the other functions?

How do these coordinates compare to one another?

11. How can the transformations that occur to the function $f(x) = x^2$ be used to determine where the x-intercepts of the function's image will be?

Go

Topic: Function Notation and Evaluating Functions

Use the given functions to find the missing values. (Check your work using a graph.)

12.

$$f(x) = x^2 + 4x - 12$$

$$f(0) =$$

$$f(2) =$$

$$f(x) = 0$$

$$f(x) = 20$$

13.

$$g(x) = (x - 5)^2 + 2$$

$$g(0) =$$

$$g(5) =$$

$$g(x) = 0$$

$$g(x) = 16$$



14.
 $f(x) = x^2 - 6x + 9$

$f(0) =$

$f(-3) =$

$f(x) = 0$

$f(x) = 16$

15.
 $g(x) = (x - 2)^2 - 3$

$g(0) =$

$g(5) =$

$g(x) = 0$

$g(x) = -3$

16.
 $f(x) = (x + 5)^2$

$f(0) =$

$f(-2) =$

$f(x) = 0$

$f(x) = 9$

17.
 $g(x) = -(x + 1)^2 + 8$

$g(0) =$

$g(2) =$

$g(x) = 0$

$g(x) = 4$

