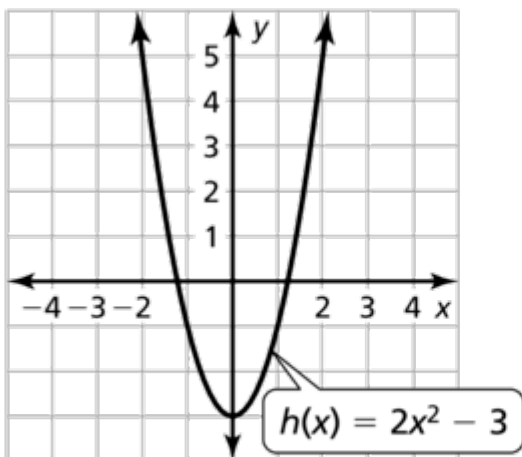


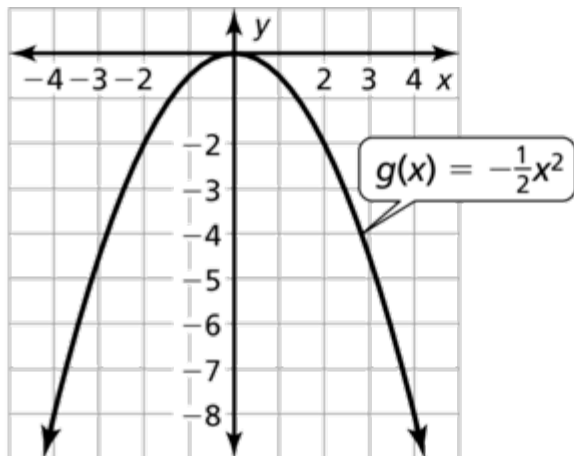
# ANSWER PRESENTATION TOOL

1.



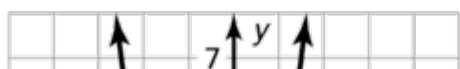
The graph of  $h$  is a vertical stretch by a factor of 2 and a vertical translation 3 units down of the graph of  $f$ .

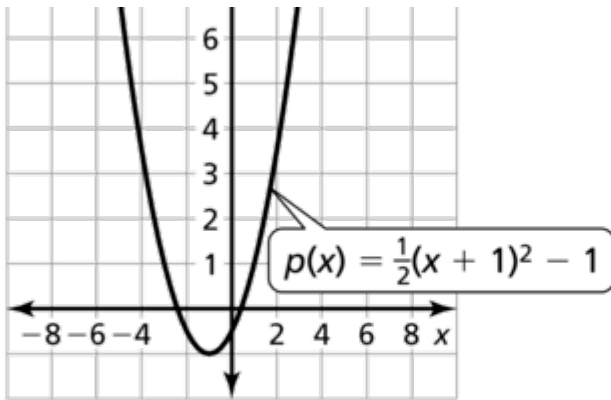
2.



The graph of  $g$  is a vertical shrink by a factor of  $\frac{1}{2}$  and a reflection in the  $x$ -axis of the graph of  $f$ .

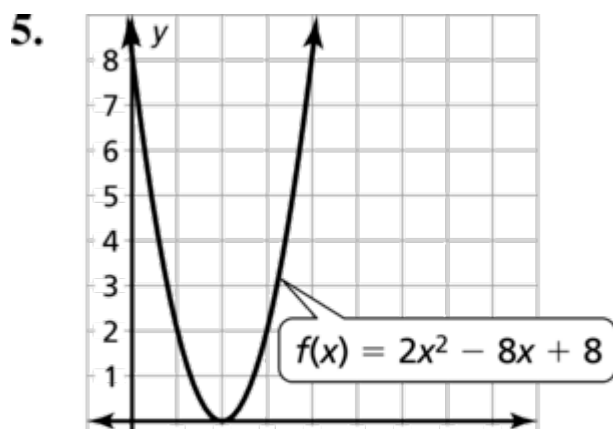
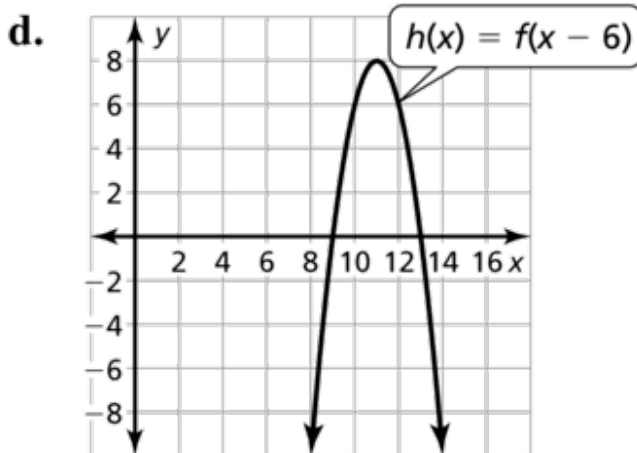
3.





The graph of  $p$  is a vertical shrink by a factor of  $\frac{1}{2}$ , and a translation 1 unit left and 1 unit down of the graph of  $f$ .

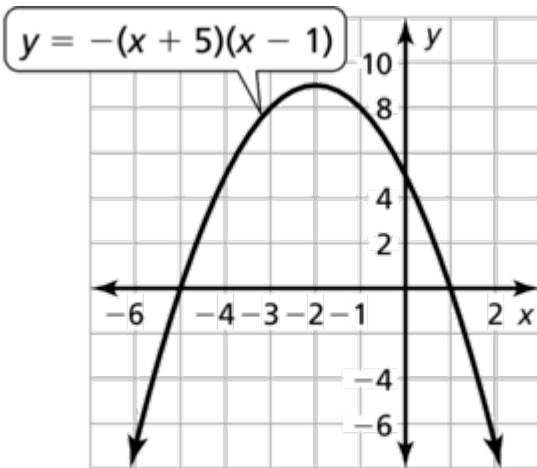
4. a. domain: all real numbers, range:  $y \leq 8$ ; 3, 7  
 b.  $f(x) = -2x^2 + 20x - 42$   
 c. The graph of  $f$  is a vertical stretch by a factor of 2, a reflection in the  $x$ -axis, and a translation 5 units right and 8 units up of the graph of  $g$ .



▼ 1 2 3 4 5 6 7 8 x

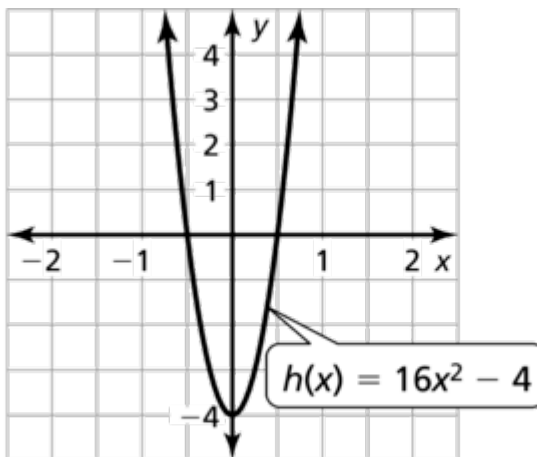
domain: all real numbers, range:  $y \geq 0$

6.



domain: all real numbers, range:  $y \leq 9$

7.



domain: all real numbers, range:  $y \geq -4$

8. exponential; The y-values increase by a constant factor;  
 $y = 8(2)^x$

9. quadratic; The second differences increase by a constant amount;  $y = -2x^2$

10.  $f(x) = -\frac{1}{2}x^2 - 5x - 8$ ; Sample answer: Use the intercepts to

10.  $f(x) = -\frac{1}{2}x^2 - 3x - 6$ , *sample answer*. Use the intercepts to write an equation in intercept form. Substitute the third point into the equation to find  $a$ . Write the equation in intercept form with the value of  $a$ . Simplify the equation to put it in standard form.

11.  $f(x) = 3x^2 - 30x$ ; *Sample answer*: Use the intercepts to write an equation in intercept form. Substitute the third point into the equation to find  $a$ . Write the equation in intercept form with the value of  $a$ . Simplify the equation to put it in standard form.

12. *Sample answer*:  $f(x) = x^2 + 3$ ; To be even, the vertex needs to be on the  $y$ -axis, so it must be in the form  $ax^2 + c$ . Because the range is  $y \geq 3$ ,  $a$  must be positive and  $c = 3$ . Any positive value of  $a$  is acceptable.

13. *Sample answer*:  $f(x) = x^2 - 8x + 16$ ; Use the  $x$ -intercept as the vertex. Use the intercept to write an equation in intercept form. Substitute the second point into the equation to find  $a$ . Write the equation in intercept form with the value of  $a$ . Simplify the equation to put it in standard form.

14. linear; The first differences are constant;  $y = 19x$

15. a. 4.445 ft  
b. yes; *Sample answer*: After traveling a horizontal distance of 30 feet, the height is 3.6 feet, so the ball will be 0.6 feet above the net.

16. a. *Sample answer*:  $a = 1, b = 0, c = 0$   
b. *Sample answer*:  $a = 0, b = 1, c = 0$

**c.** *Sample answer:*  $a = 1, b = 2, c = 3$

**17.** 1, 3, 5; They are increasing by a constant amount.