

*Solve each system for the variables.*

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

2.  $y = 2x^2 - 4x + 1$   
 $y + 2x = 5$

3.  $y = x^2 + 4x + 1$   
 $y = 4x + 17$

4.  $y = x^2 + 5$   
 $y = 2x^2 + 4x - 16$

5.  $y = 2x^2 + x - 4$   
 $y = x^2 + 9x - 19$

6.  $y = -x^2 + 3x$   
 $y = 5x - 3$

7.  $y = x^2 + 2x - 3$   
 $y = x^2 - x + 4$

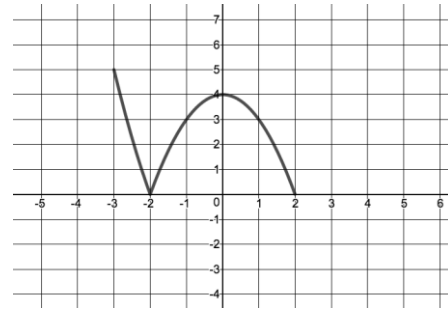
8.  $y = 2x^2 + x$   
 $y = 2x^2 + 4x - 1$

9.  $y = 3x^2 + 4x - 2$   
 $y + 2x = 7$

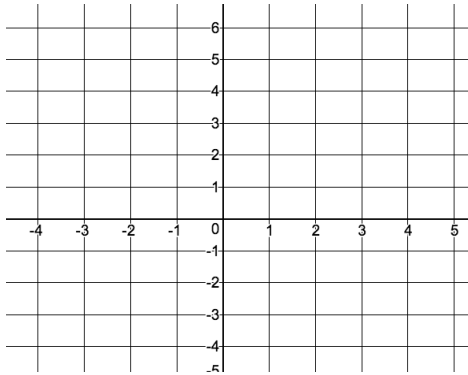
10.  $y = 5x^2 + 7x + 7$   
 $y = 3x^2 + 2x + 5$

11-12. Graph each transformation of  $f(x)$  on the axes provided.

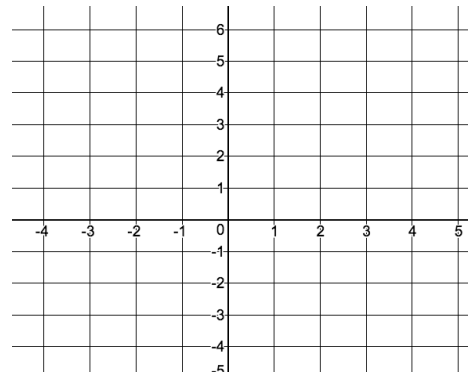
Graph of  $f(x)$



11.  $y = -f(x+1) - 2$



12.  $y = f(2-x) + 1$



13.

$$m = \frac{\left(\frac{r}{1,200}\right)\left(1 + \frac{r}{1,200}\right)^N}{\left(1 + \frac{r}{1,200}\right)^N - 1} P$$

The formula above gives the monthly payment  $m$  needed to pay off a loan of  $P$  dollars at  $r$  percent annual interest over  $N$  months. Which of the following gives  $P$  in terms of  $m$ ,  $r$ , and  $N$ ?

A)  $P = \frac{\left(\frac{r}{1,200}\right)\left(1 + \frac{r}{1,200}\right)^N}{\left(1 + \frac{r}{1,200}\right)^N - 1} m$

B)  $P = \frac{\left(1 + \frac{r}{1,200}\right)^N - 1}{\left(\frac{r}{1,200}\right)\left(1 + \frac{r}{1,200}\right)^N} m$

C)  $P = \left(\frac{r}{1,200}\right) m$

D)  $P = \left(\frac{1,200}{r}\right) m$

14.

If  $16 + 4x$  is 10 more than 14, what is the value of  $8x$ ?

- A) 2
- B) 6
- C) 16
- D) 80