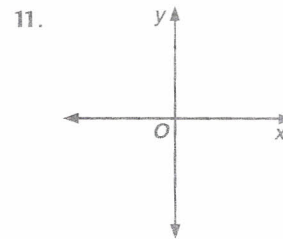
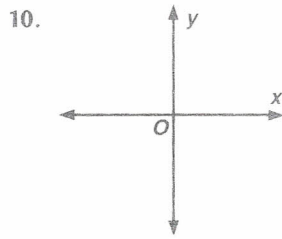
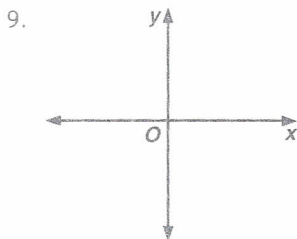


Determine if the inverse of each relation graphed below is a function. Write *yes* or *no*.



12. Find the inverse of  $y = x^2 - 7$ . Graph the function and its inverse.

## EXERCISES

Find the inverse of each function.

13.  $y = 2x + 3$

14.  $y = 0.5x - 8$

15.  $y = 4 - 3x^2$

16.  $y = x^2 + 4$

17.  $y = (x - 2)^3$

18.  $y = (x + 3)^4 - 5$

Find the inverse of each function. Sketch the function and its inverse. Is the inverse a function? Write *yes* or *no*.

19.  $y = x^2 + 2$

20.  $y = (x + 3)^3$

21.  $y = (x - 4)^4$

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

23.  $y = (x - 3)^3 - 6$

24.  $y = x^5 + 5$

For each parent graph, describe the transformation(s) that have taken place in the related graph of each function.

25.  $y = x^2$

26.  $y = x^3$

a.  $y = \pm\sqrt{x}$

a.  $y = \sqrt{x}$

b.  $y = \pm\sqrt{x - 3}$

b.  $y = \sqrt{x} + 6$

c.  $y = \pm\sqrt{x} + 6$

c.  $y = \sqrt{x - 4}$

d.  $y = \pm 3\sqrt{x}$

d.  $y = 0.4\sqrt[3]{x}$

e.  $y = \pm 0.2\sqrt{x} + 4$

e.  $y = \sqrt[3]{x + 3} - 8$

f.  $y = \pm\sqrt{x - 5} + 3$

f.  $y = -\sqrt[3]{x - 3} - 6$

Graph the two relations on the same screen. Determine if the two relations are inverses. Write *yes* or *no*. If the answer is no, write the equation that is the inverse of the first equation.

same

27.  $y = (x + 1)^2$   
 $y = \pm\sqrt{x - 1}$

28.  $y = x^2 - 2$   
 $y = \pm\sqrt{x + 2}$

29.  $y = x^3 - 5$   
 $y = \sqrt[3]{x} + 5$

no