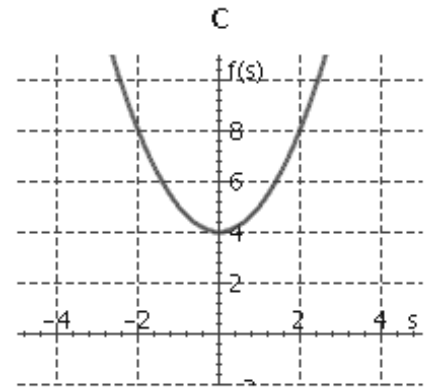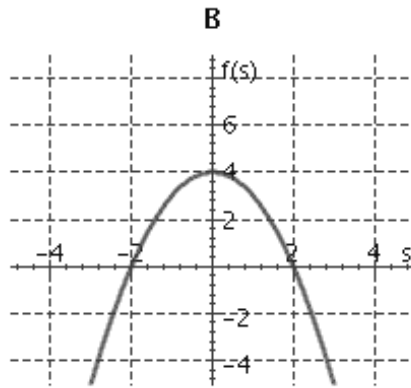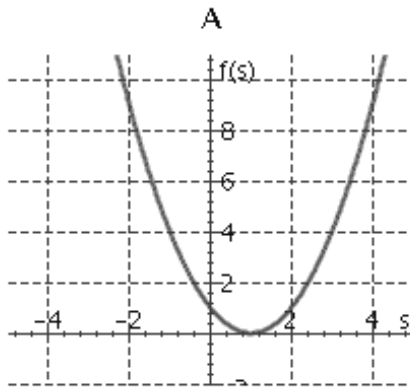**1**   Graph the function.

$$f(s) = s^2 + 4$$
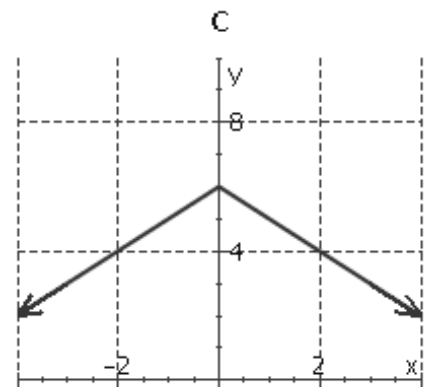
Select the correct graph.

A	B	C

2   Graph the function.

$$g(x) = |x| + 6$$

Select the correct graph.

A	B	C
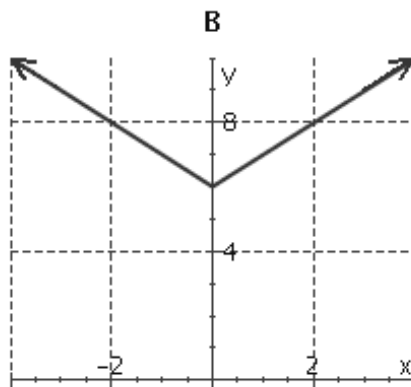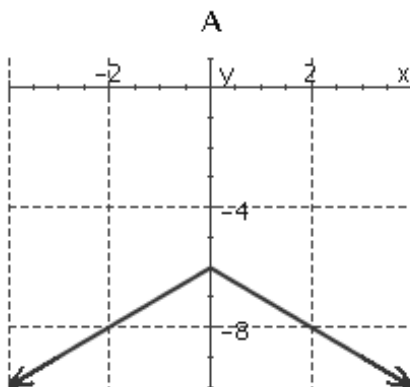
3 Graph the function.

$$h(x) = \frac{1}{x} - 4$$

Select the correct graph.

A	B	C
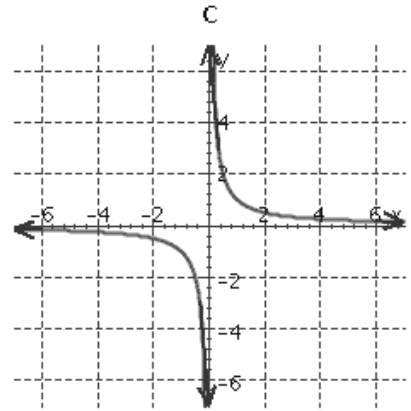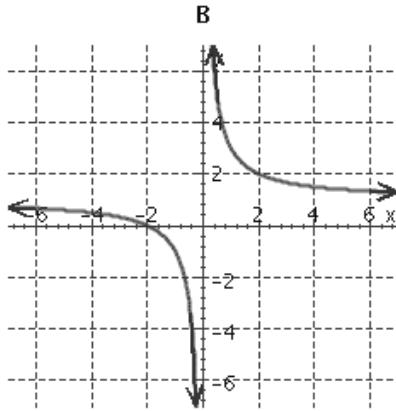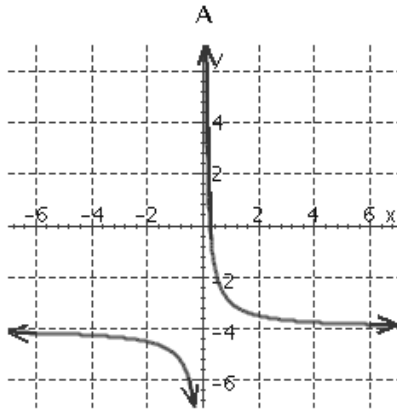
4 Graph the function.

$$g(x) = \sqrt{x + 2}$$

Select the correct graph.

A	B	C
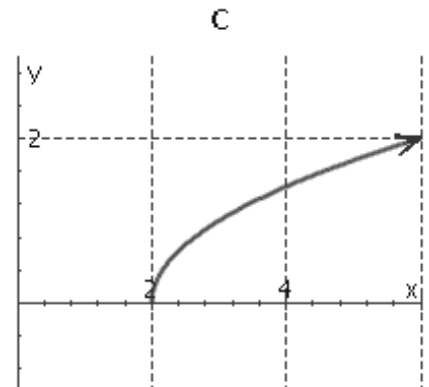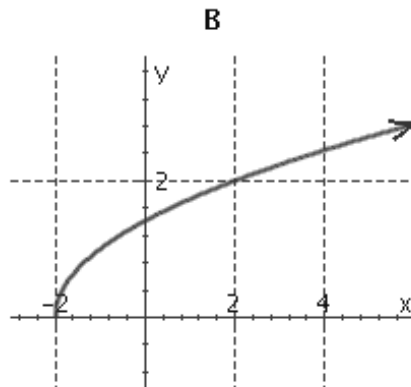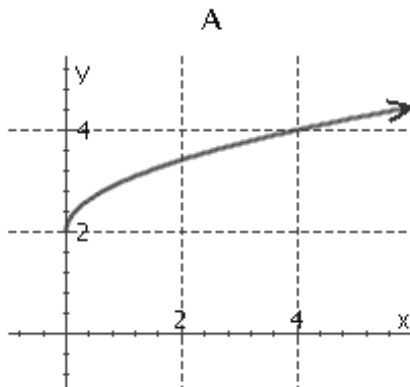
5   Graph the function

$$g(x) = 2\sqrt[3]{x}.$$

Select the correct graph.
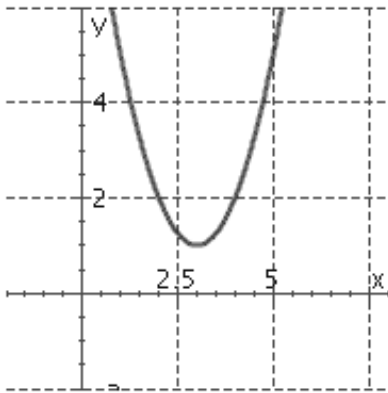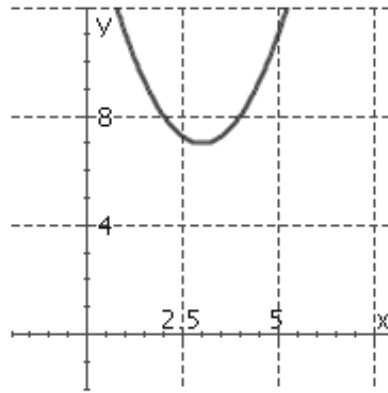
A

B

C
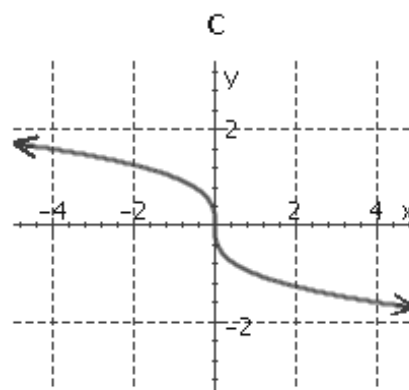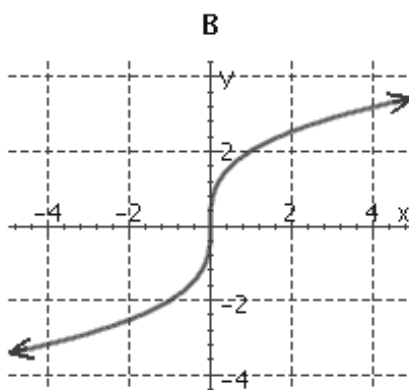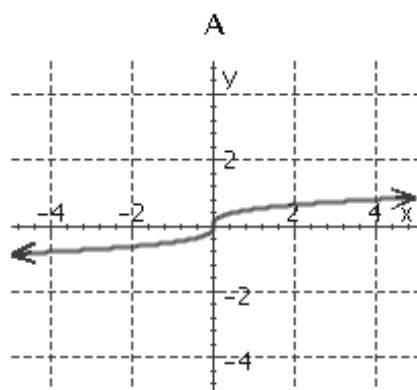
6   The graph of the function can be obtained from one of the basic graphs by two translations. Sketch the graph of the given function.
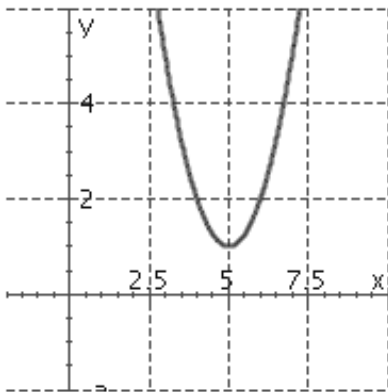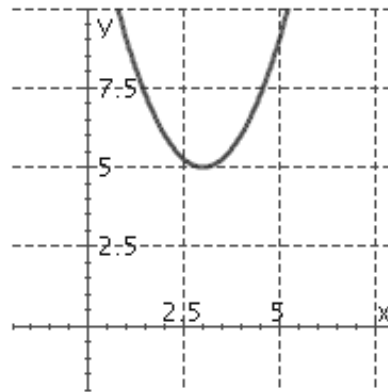
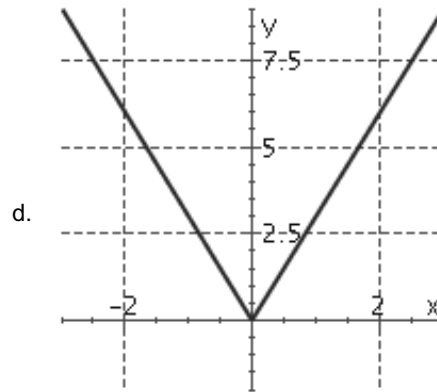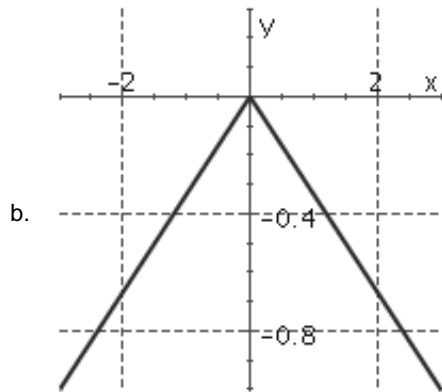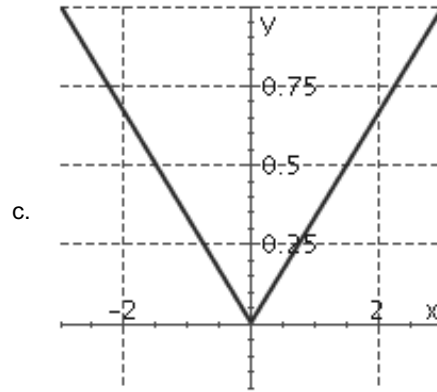$$f(x) = 1 + (x - 3)^2$$

a.

c.

b.

d.

7 The graph of the function can be obtained from one of the basic graphs by compression. Find the graph of the given function.

$$f(x) = \frac{1}{3}|x|$$

a.

c.

b.

d.
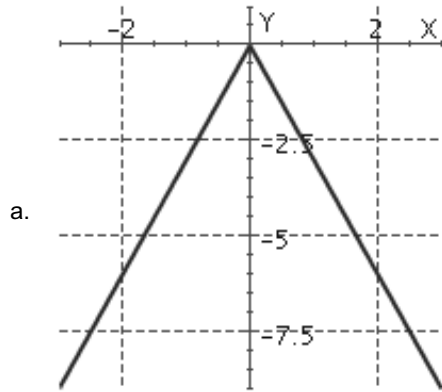
8   Give an equation for the function graphed.
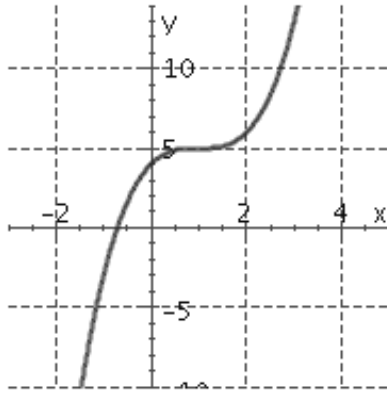
a. $y = (x + 1)^3 - 5$

b. $y = (x - 1)^3 - 5$

c. $y = (x - 1)^3 + 5$

d. $y = (x + 1)^3 + 5$

9   Find the range element associated with the domain element for $g(x) = \dfrac{3}{3x - 1}$, where $x = -4$.

10 Evaluate the function $f(x) = 3x^2 - x + 6$ for the expression, $x = 2h$.

11 Let $f(x) = x^3 - 1$, and evaluate the expression, $f(2) + f(4)$.

12 Let $f(x) = x^2 - 1$, and evaluate the expression, $7f(x) + 8$

13 Graph the function defined by

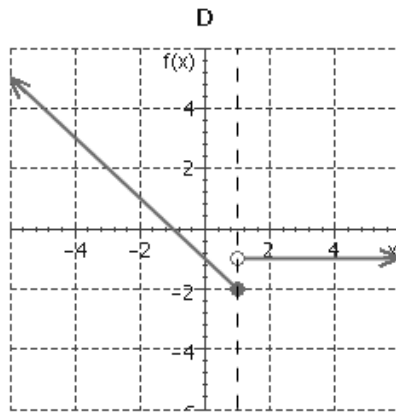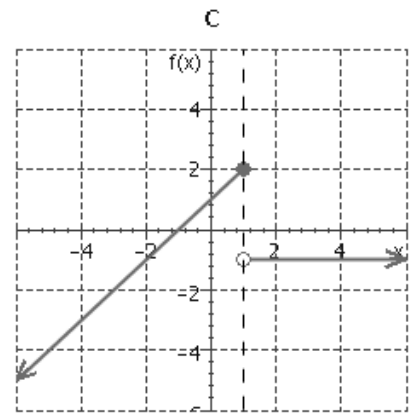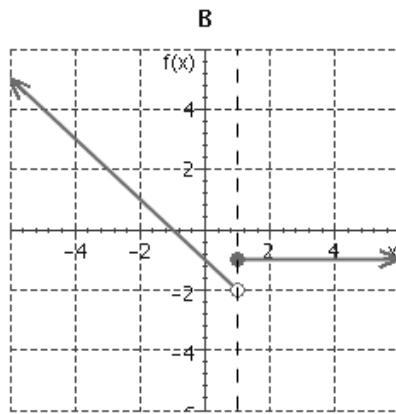$$f(x) = \begin{cases} x + 1 & \text{if } x \le 1 \\ -1 & \text{if } x > 1 \end{cases}$$

A

B

C

D
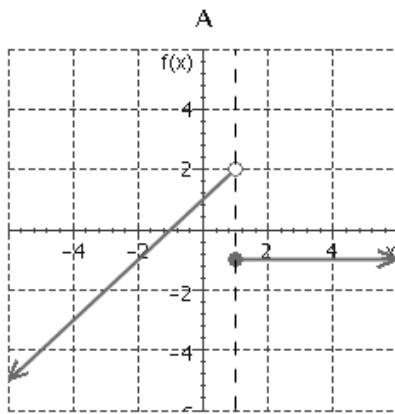
Select the letter that corresponds to the correct graph.

14 For this function compute the following expression.

$$f(x) = x^2 + 1$$

$$f(5 + 4)$$

a. 82   b. 78   c. 53   d. 57

15 Graph by hand the following piecewise $-$ defined function.
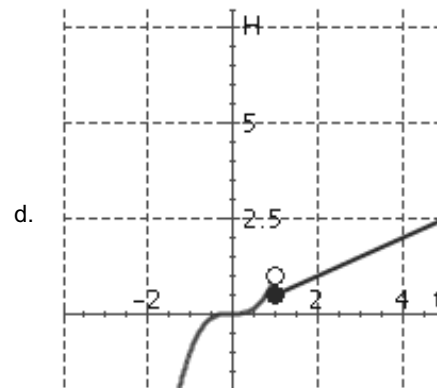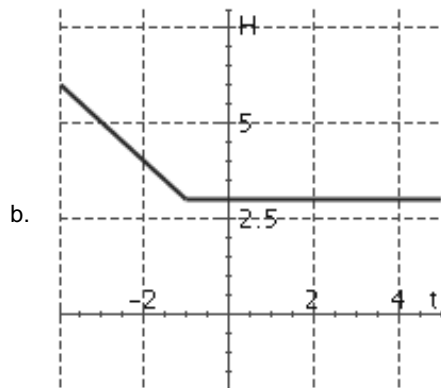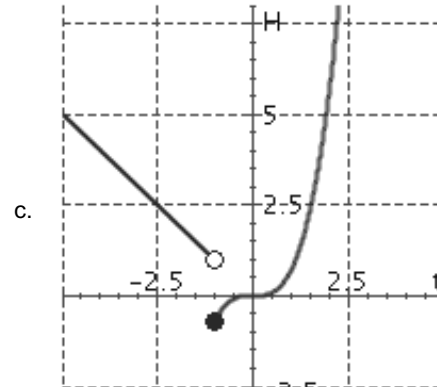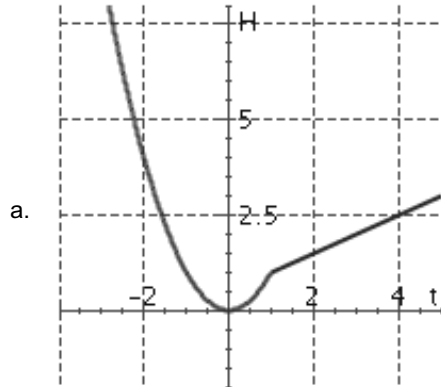
$$H(t) = \begin{cases} t^2 & \text{if } t < 1 \\ \dfrac{1}{2}t + \dfrac{1}{2} & \text{if } t \geq 1 \end{cases}$$

a.

c.

b.

d.

16 Find the inverse of the function

$$f(x) = 5x - 2$$

17 Find the inverse of the function

$$f(x) = x^3 + 5$$

Does f "undo" the effect of the inverse function on $x = -3$?

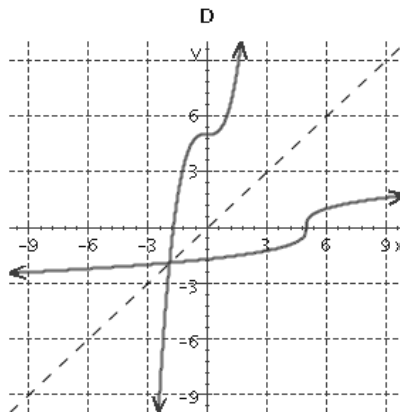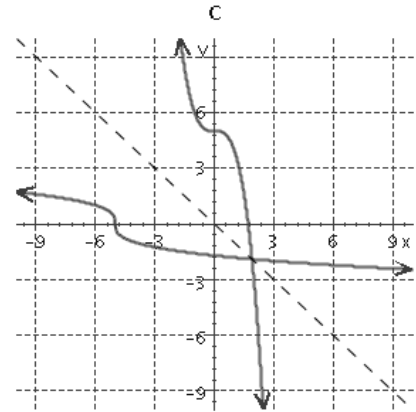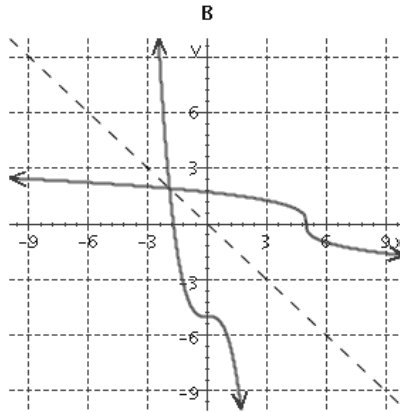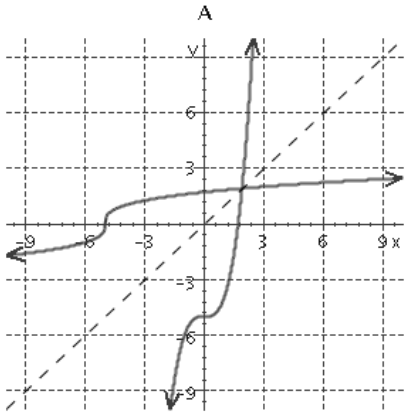Name: _____   Class:____   Date: _____

18 Graph the function

$$f(x) = x^3 + 5$$

and its inverse,

$$g(x) = \sqrt[3]{x} - 5$$

on the same set of axes.
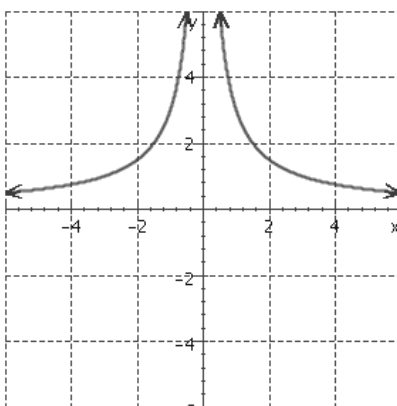Select the label that corresponds to the correct graph.

A

B

C

D

19 Does the function, graphed in the figure below, have an inverse that is also a function?

20 If $h(x) = 3x - 6$, find $h^{-1}(18)$.

1. C	**2.** B	**3.** a	**4.** B	**5.** B	**6.** a	**7.** c

8. c **9.** $-\text{frac}(3,13)$ **10.** $f(2*h)=12*h^2-2*h+6$ **11.** 70 **12.** $7*x^2+1$ **13.** C **14.** a

15. a **16.** $g(x)=\text{frac}(x,5)+\text{frac}(2,5)$ **17.** yes **18.** D **19.** no **20.** 8