

Describe in words, the transformation(s) performed on $f(x) = \sqrt{x}$ to obtain $g(x)$. Use function notation to write $g(x)$ in terms of $f(x)$.

Example: $g(x) = \sqrt{x+2} - 4$

translated 2 units left and 4 units down

$g(x) = f(x+2) - 4$

1. $g(x) = \sqrt{x} + 8$

2. $g(x) = \sqrt{-x} + 5$

3. $g(x) = \sqrt{x-6} - 4$

4. $g(x) = 7 - \sqrt{x+1}$

5. $g(x) = \sqrt{x+9} - 2$

6. $g(x) = -5 + \sqrt{x-3}$

Match the numerical representation (table) with the algebraic/symbolic representation.

7) $g(x) = -f(x)$ _____

8) $g(x) = f(x+2)$ _____

9) $g(x) = f(x) - 2$ _____

10) $g(x) = f(-x)$ _____

11) $g(x) = f(x-2) + 2$ _____

12) $g(x) = f(x+2) + 2$ _____

x	f(x)
-1	5
0	-3
1	4
3	-1

A)

x	g(x)
-3	5
-2	-3
-1	4
1	-1

B)

x	g(x)
1	7
2	-1
3	6
5	1

C)

x	g(x)
1	5
-0	-3
-1	4
-3	-1

D)

x	g(x)
-3	7
-2	-1
-1	6
1	1

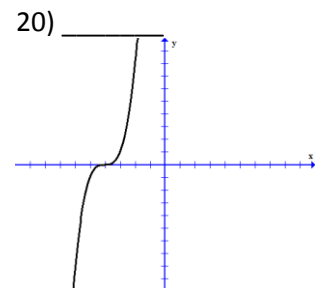
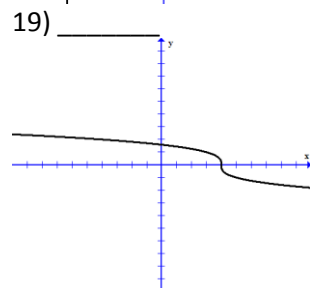
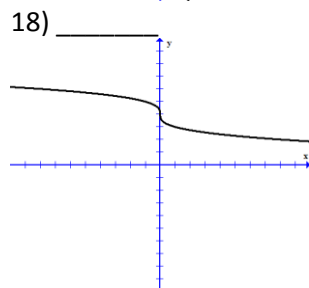
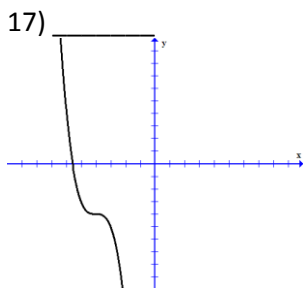
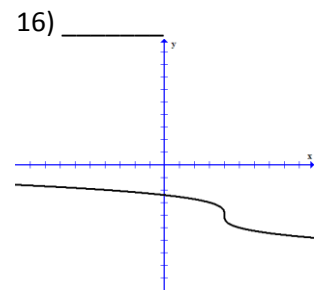
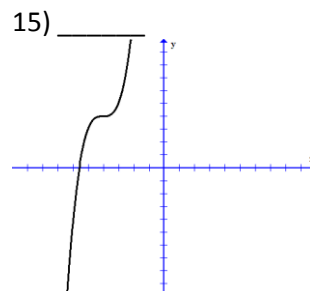
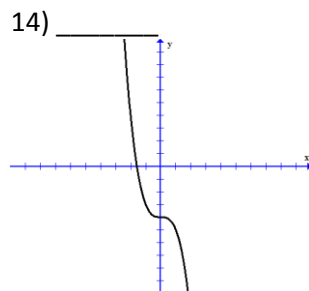
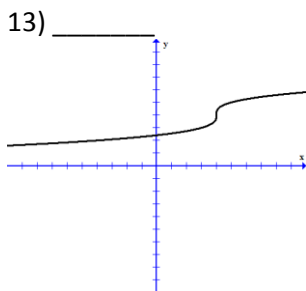
E)

x	g(x)
-1	-5
0	3
1	-4
3	1

F)

x	g(x)
-1	3
0	-5
1	2
3	-3

Match the equations to the graphs.



A) $f(x) = -4 - \sqrt[3]{x-4}$
 E) $f(x) = -4 - x^3$

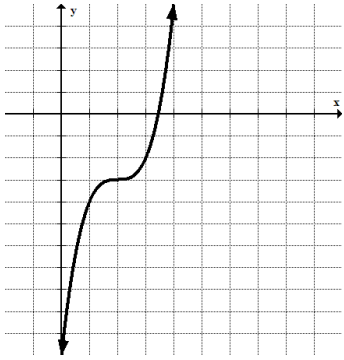
B) $f(x) = (x+4)^3$
 F) $f(x) = \sqrt[3]{x-4} + 4$

C) $f(x) = -\sqrt[3]{x-4}$
 G) $f(x) = -(x+4)^3 - 4$

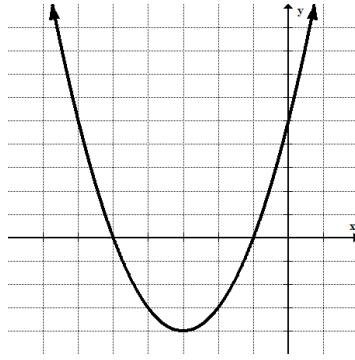
D) $f(x) = (x+4)^3 + 4$
 H) $f(x) = 4 - \sqrt[3]{x}$

Write the equations for each of the graphs. Use the graphing calculator to verify your equation.

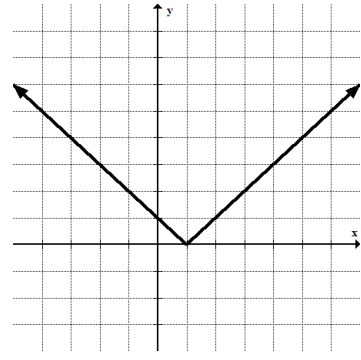
21) $g(x) =$ _____



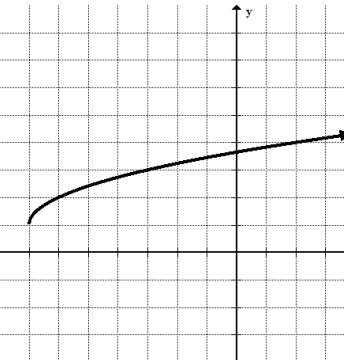
22) $g(x) =$ _____



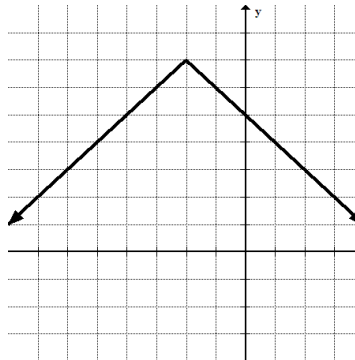
23) $g(x) =$ _____



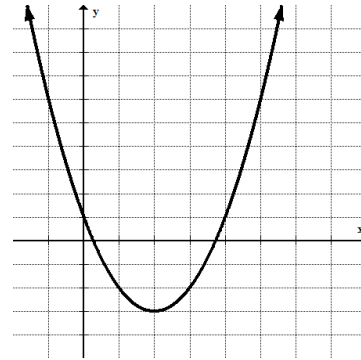
24) $g(x) =$ _____



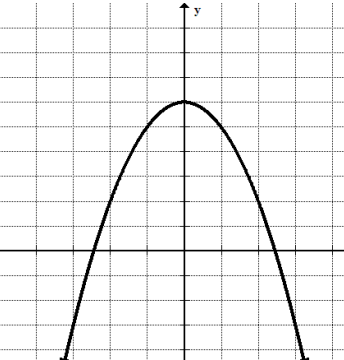
25) $g(x) =$ _____



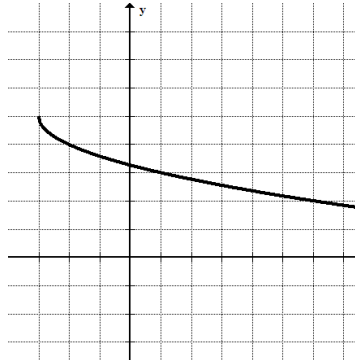
26) $g(x) =$ _____



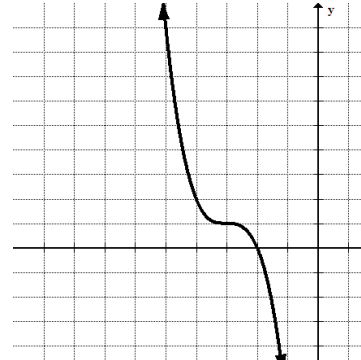
27) $g(x) =$ _____



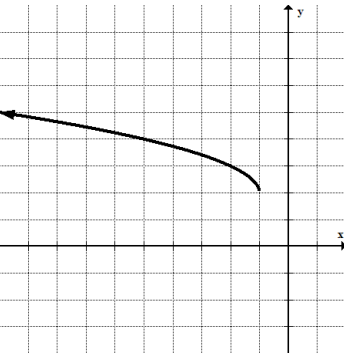
28) $g(x) =$ _____



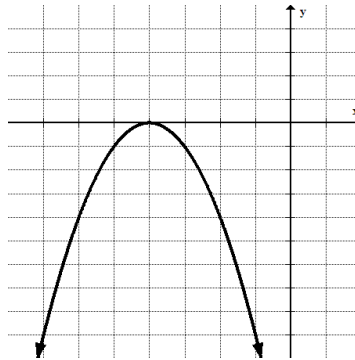
29) $g(x) =$ _____



30) $g(x) =$ _____



31) $g(x) =$ _____



32) $g(x) =$ _____

