

Accelerated Geom/Alg. 2
Radical Equations Review

Name _____
Date _____ Block _____

Solve the following equations. Be sure to check for extraneous solutions.

1. $x = \sqrt{8x}$

2. $\sqrt[3]{x-3} = 2$

3. $\sqrt[10]{2x-3} = \sqrt[10]{6-x}$

4. $\sqrt[5]{4x} = \sqrt[5]{2x-7}$

5. $\sqrt{14x-40} = x$

6. $x = \sqrt{2-x}$

7. $-4\sqrt{-9-x} = -4$

8. $2\sqrt[3]{x+8} = \sqrt[3]{8-6x}$

9. $\sqrt{6x-5} = x$

10. $-12 = -3\sqrt[3]{x+6}$

Match the function (labeled a – f) with the correct transformation. Place the letter of the correct function on the line beside each number.

___ 11. Vertical shift down 2

a) $f(x) = \sqrt[3]{x} + 2$

___ 12. Reflection over the x-axis

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

___ 13. Vertical shift up 2

c) $h(x) = -\sqrt[3]{x}$

___ 14. Horizontal shift left 2

d) $i(x) = 2\sqrt[3]{x}$

___ 15. Horizontal shift right 2

e) $j(x) = \sqrt[3]{x-2}$

___ 16. Vertical stretch by 2

f) $k(x) = \frac{1}{2}\sqrt[3]{x}$

___ 17. Vertical shrink by 1/2

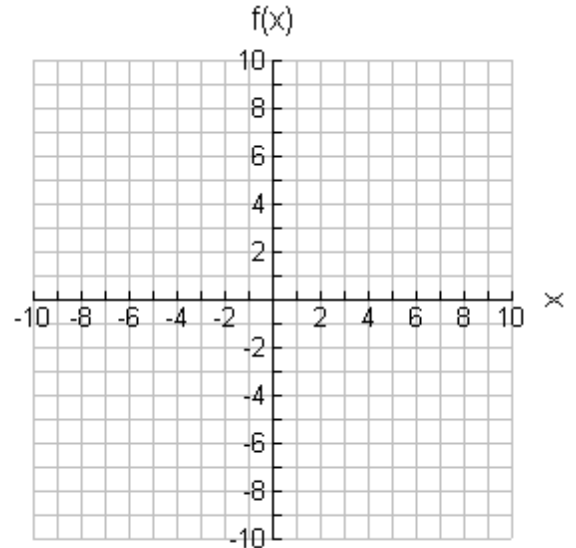
g) $l(x) = \sqrt[3]{x} - 2$

Graph the following equations.

18. $y = -\sqrt[3]{x+2} - 3$

x	y

x	y



Transformations: _____

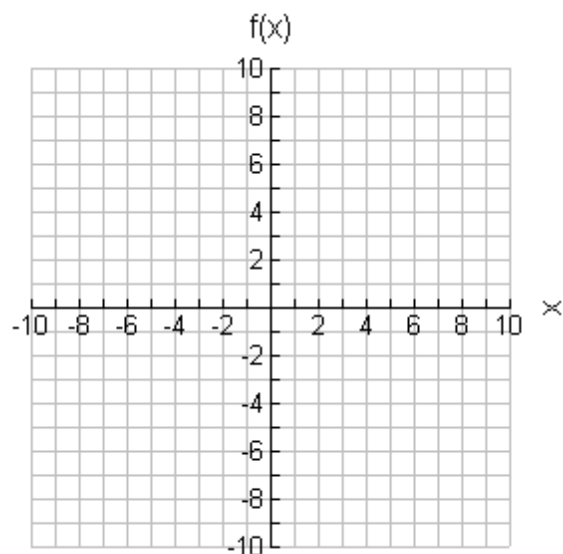
D: _____ R: _____

19. $y = \frac{1}{2}\sqrt{x-1} + 5$

x	y

x	y

Transformations: _____



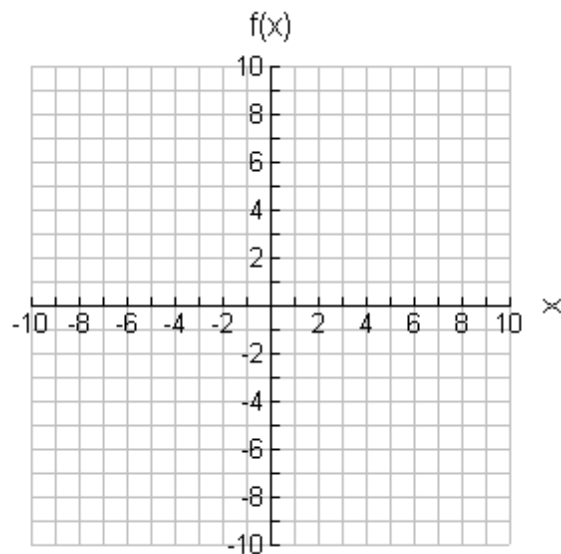
D: _____ R: _____

20. $f(x) = -2\sqrt{x+1} - 4$

x	y

x	y

Transformations: _____

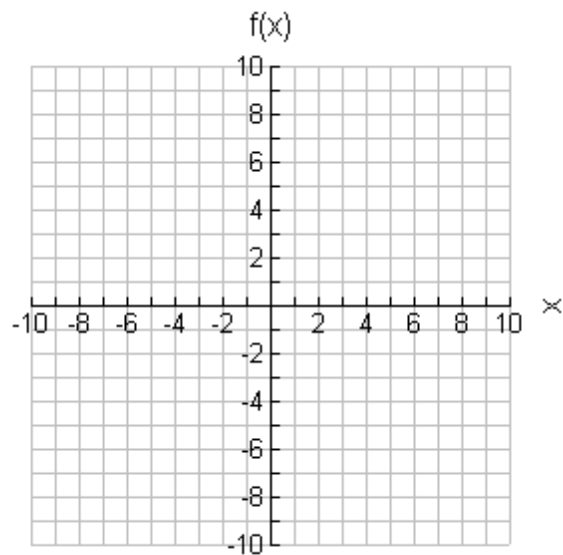


D: _____ R: _____

21. $f(x) = 4\sqrt[3]{x+3} - 1$

x	y

x	y



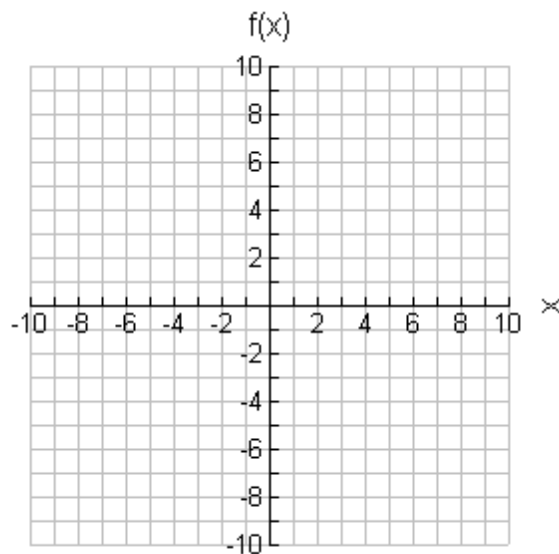
Transformations: _____

D: _____ R: _____

22. $f(x) = -\frac{1}{2}\sqrt[3]{x} - 2$

x	y

x	y



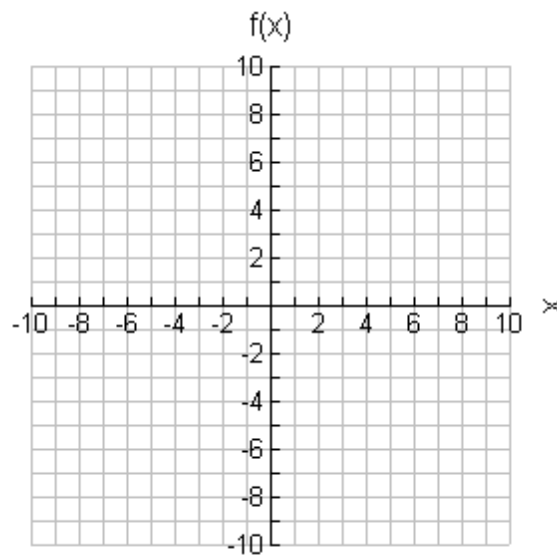
Transformations: _____

D: _____ R: _____

23. $f(x) = 3\sqrt{x-4}$

x	y

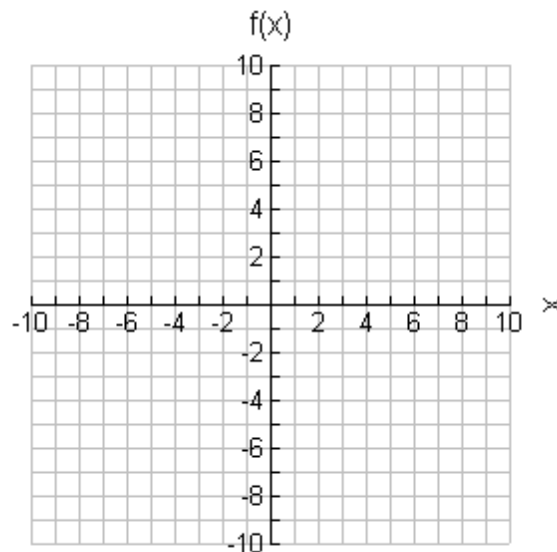
x	y



Transformations: _____

D: _____ R: _____

24. $f(x) = \begin{cases} 3x+2, & x \leq 3 \\ x-1, & x > 3 \end{cases}$



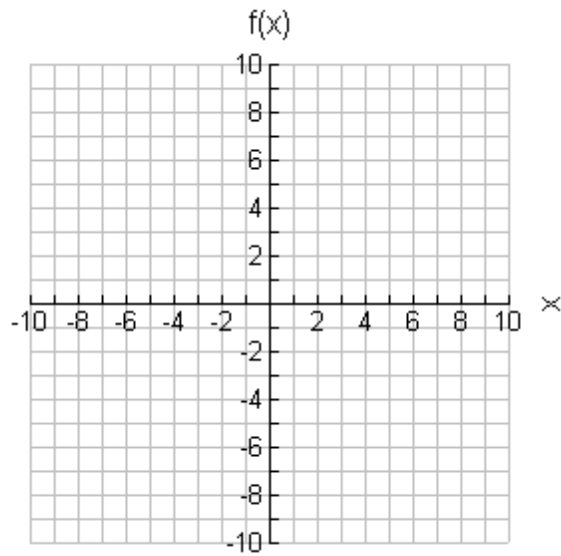
Continuous or Discontinuous

Evaluate:

$f(-2)$

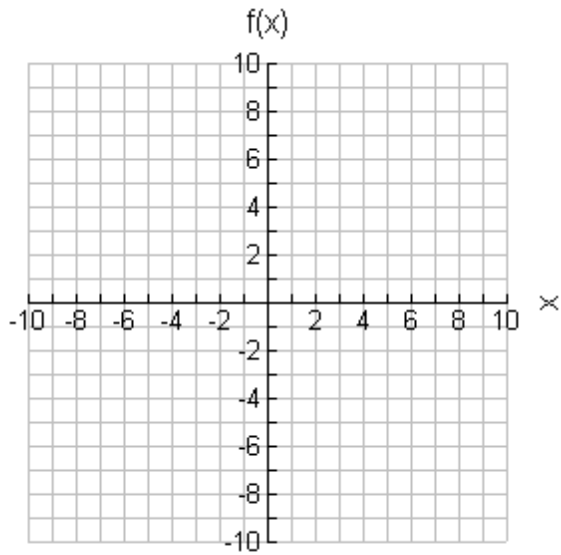
$f(10)$

$$25. g(x) = \begin{cases} 1, & -4 \leq x < -2 \\ 2, & -2 \leq x < 0 \\ 3, & 0 \leq x < 2 \\ 4, & 2 \leq x < 4 \end{cases}$$



Continuous or Discontinuous

$$26. h(x) = \begin{cases} x-5 & x > 4 \\ 2(x-3)^2 - 4 & 2 \leq x \leq 4 \\ -2 & x < 2 \end{cases}$$



Continuous or Discontinuous

Evaluate:

$$h(-4)$$

$$h(3)$$

$$h(10)$$