Section 2.4 - A Library of Parent Functions

1. Identify the following function.

$f(x) = 8$

a. Constant function
b. Absolute value function
c. Square root function
d. Squaring function
e. Identity function

ANSWER: a
POINTS: 1
REFERENCES: 2.4.1e
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 9/26/2014 3:10 AM

2. Select the linear function such that it has the indicated function values.

$f(1) = 8, f(0) = 7$

a. $f(x) = 4x + 7$
b. $f(x) = x + 7$
c. $f(x) = 7x - 3$
d. $f(x) = x - 7$
e. $f(x) = -7x - 7$

ANSWER: b
POINTS: 1
REFERENCES: 2.4.11a
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 9/26/2014 3:40 AM

3. Select the linear function such that it has the indicated function values.

$f(8) = 16, f(-3) = -17$

a. $f(x) = 3x - 8$
b. $f(x) = -3x + 3$
c. $f(x) = 3x + 8$
d. $f(x) = 8x + 3$
e. $f(x) = -3x - 3$

ANSWER: a

Section 2.4 - A Library of Parent Functions

POINTS: 1
REFERENCES: 2.4.14a
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 10/24/2014 6:16 AM

4. Select the linear function such that it has the indicated function values.

$f(-4) = -2, f(4) = -2$

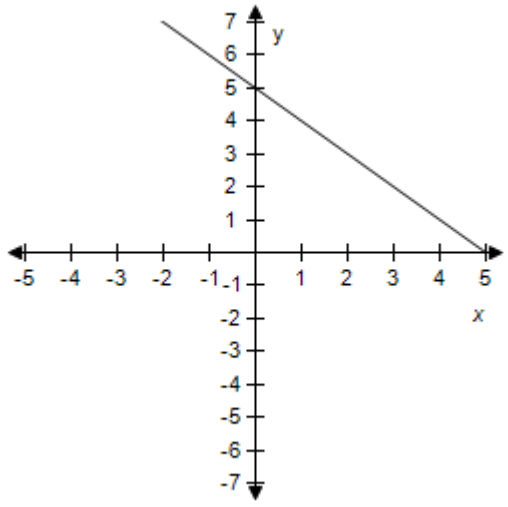
a. $f(x) = -x$
b. $f(x) = 2$
c. $f(x) = -2$
d. $f(x) = 4$
e. $f(x) = x$

ANSWER: c
POINTS: 1
REFERENCES: 2.4.15a
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:54 AM

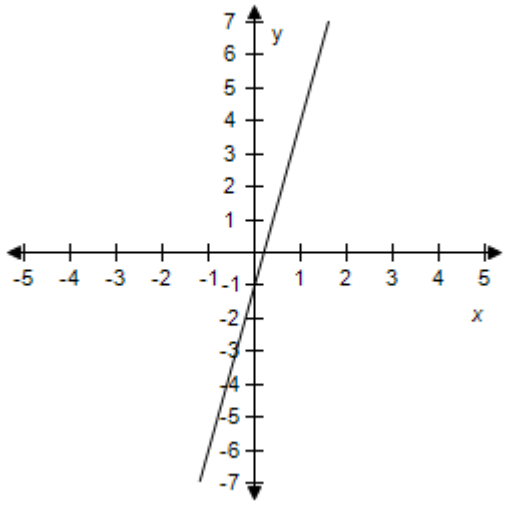
5. Select the correct graph of the given function.

$f(x) = -x + 5$

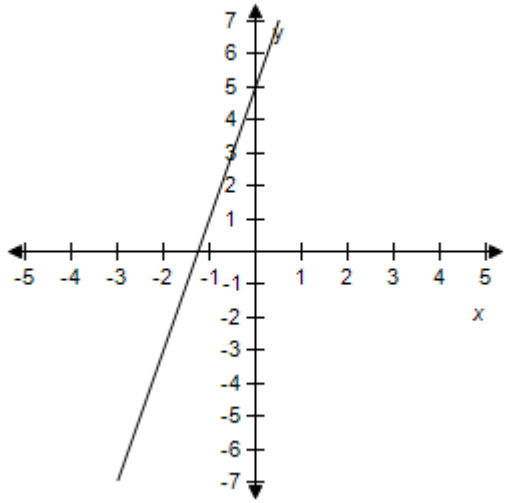
a.



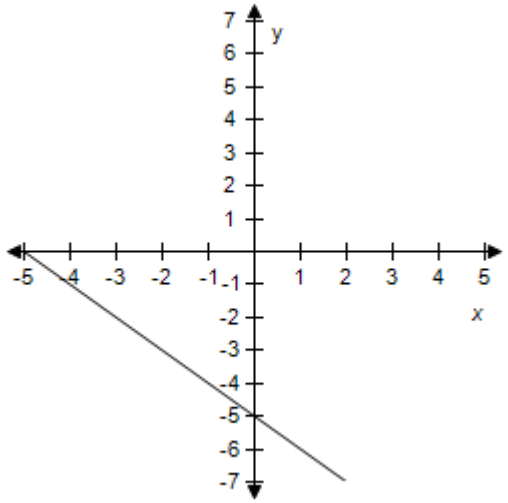
b.



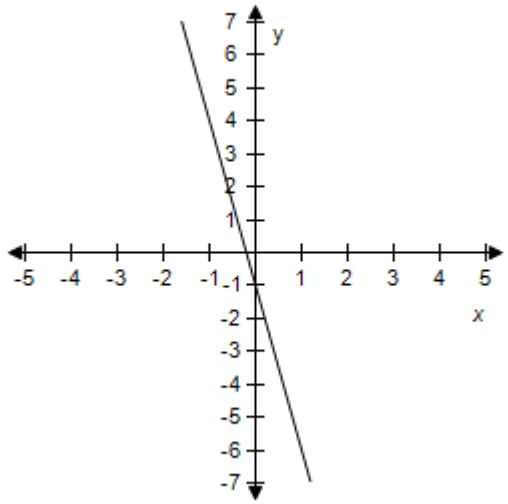
c.



d.



e.



ANSWER: a
POINTS: 1
REFERENCES: 2.4.19
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 9/26/2014 4:10 AM

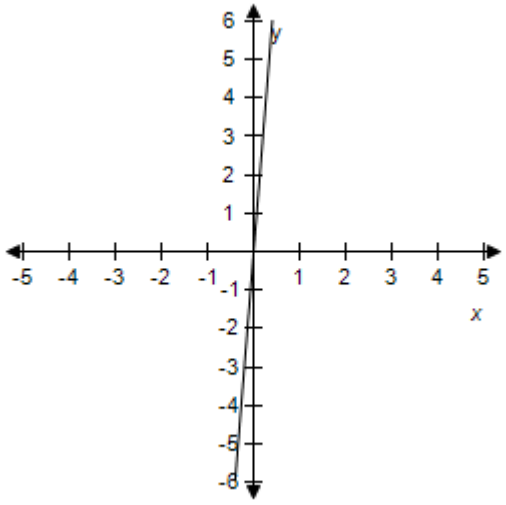
6. Select the correct graph of the given function.

$f(x) = 2.7x - 5.5$

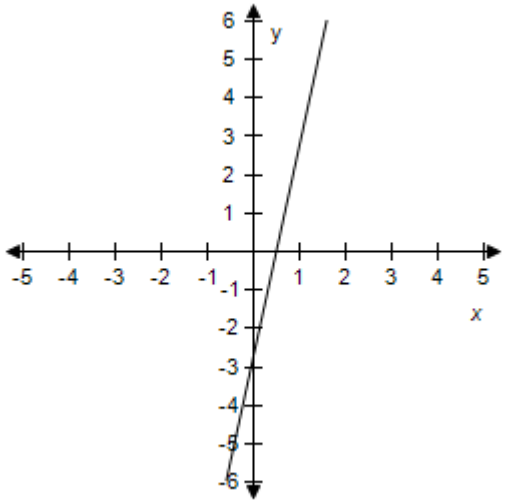
a.

b.

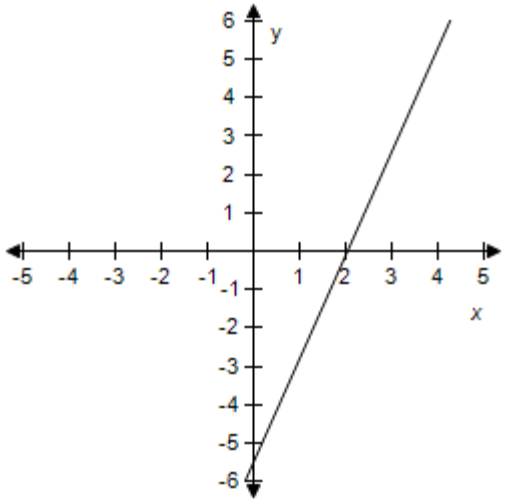
Section 2.4 - A Library of Parent Functions



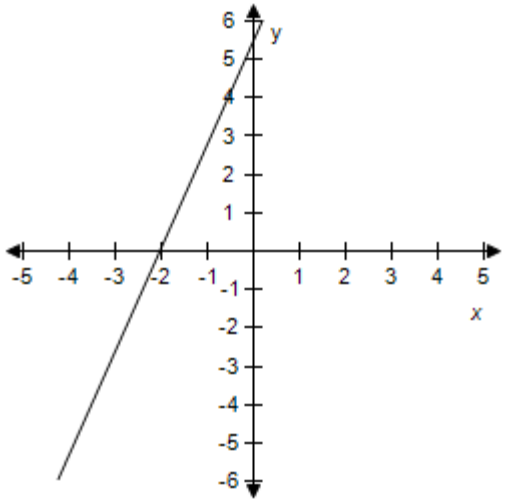
c.



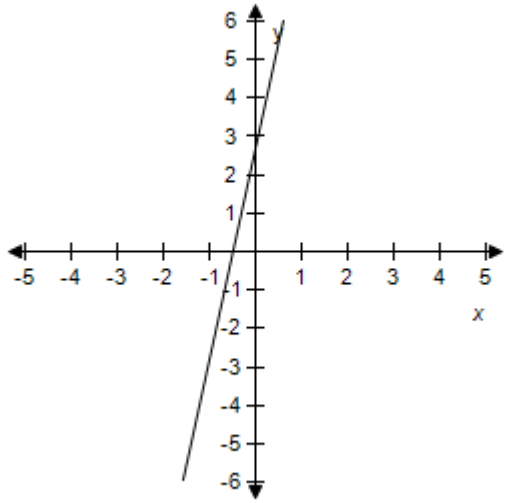
d.



e.



Section 2.4 - A Library of Parent Functions

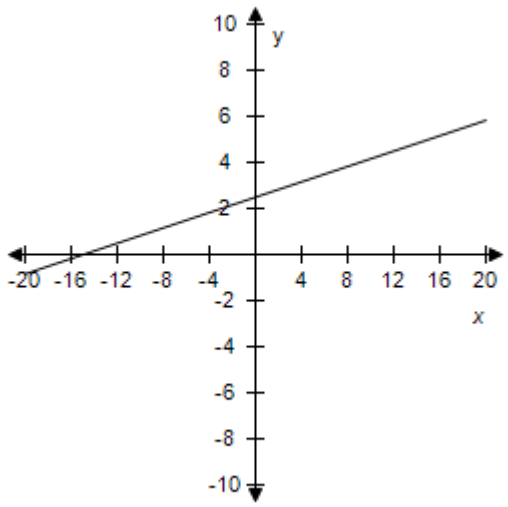


ANSWER: c
POINTS: 1
REFERENCES: 2.4.20
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 9:32 AM

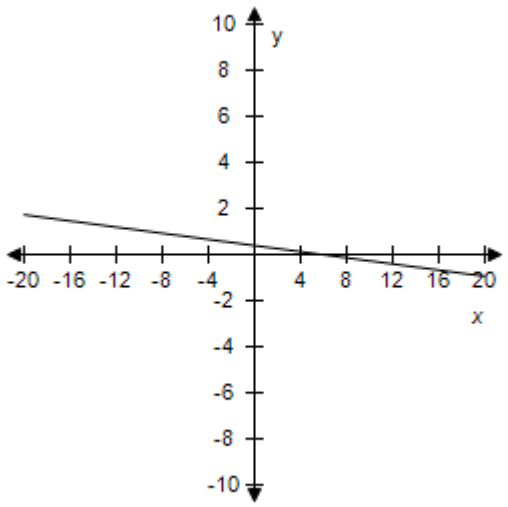
7. Select the correct graph of the given function.

$$f(x) = -\frac{1}{6}x - \frac{5}{2}$$

a.

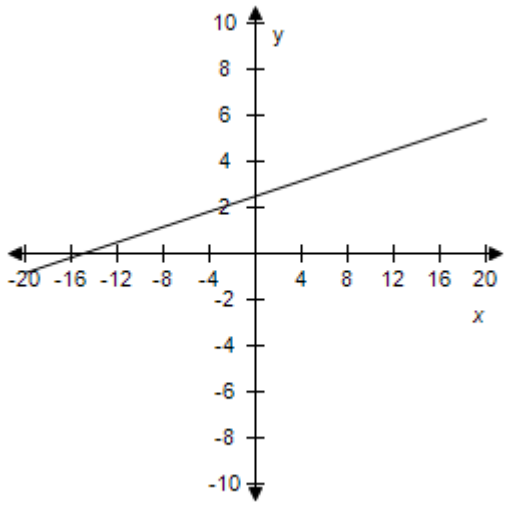


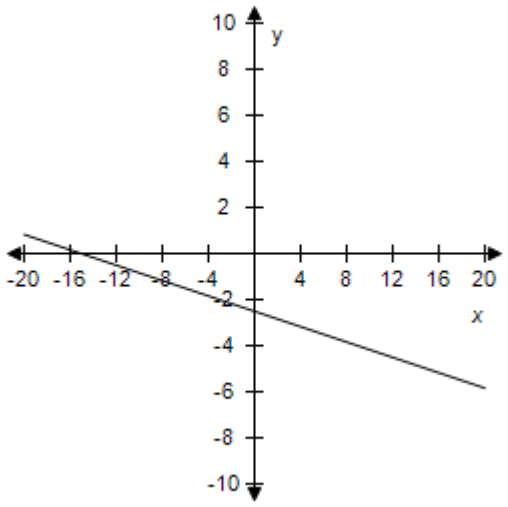
b.



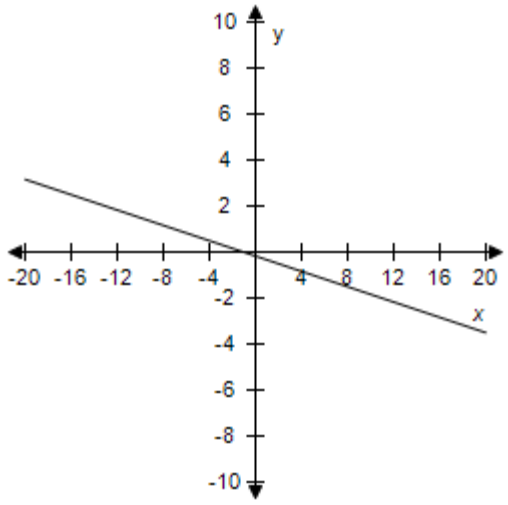
c.

d.





e.



ANSWER: d
POINTS: 1
REFERENCES: 2.4.21
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 9:35 AM

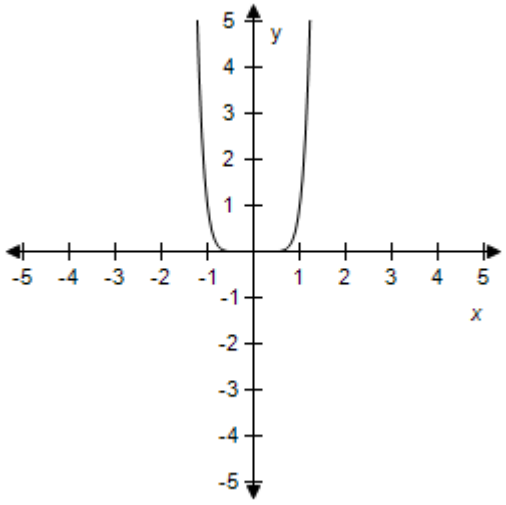
8. Select the correct graph of the given function.

$f(x) = -3x^3$

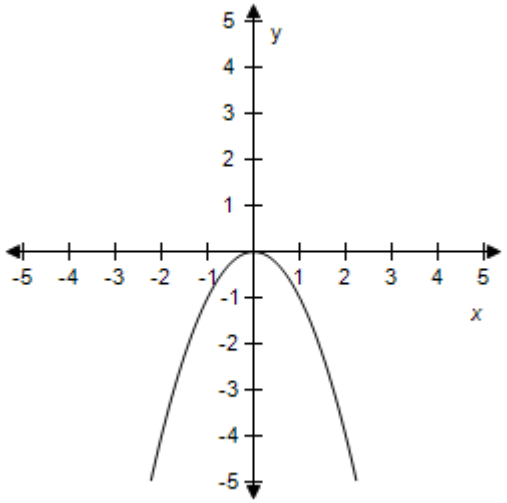
a.

b.

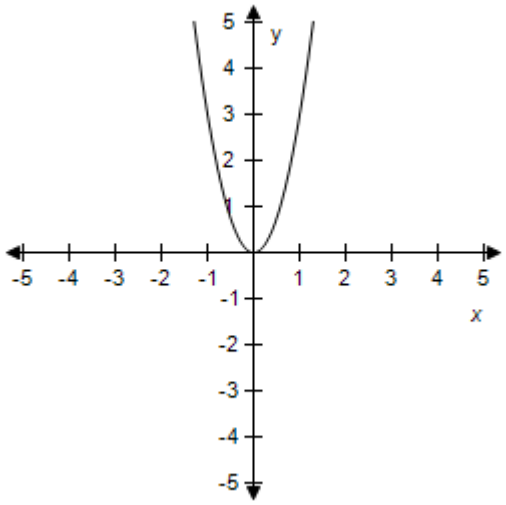
Section 2.4 - A Library of Parent Functions



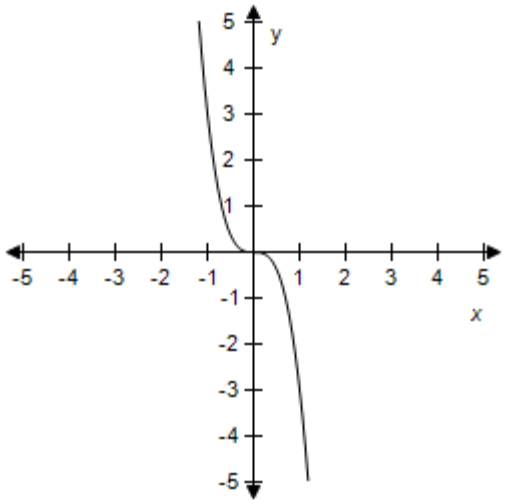
c.



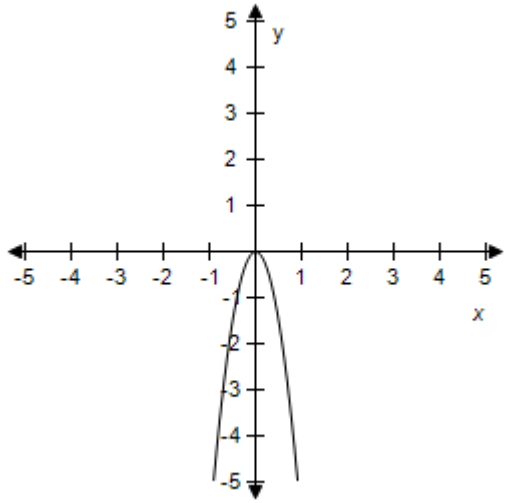
d.



e.



Section 2.4 - A Library of Parent Functions

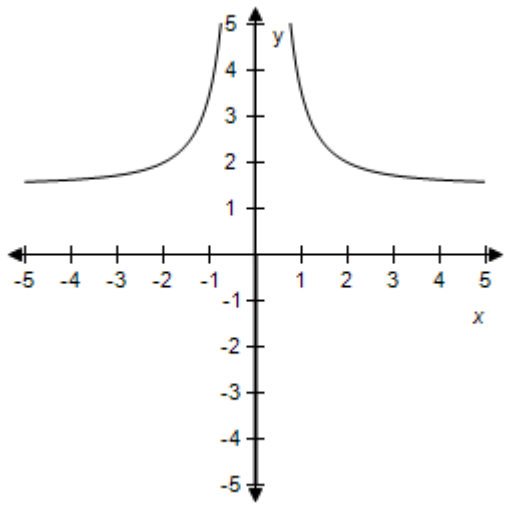


ANSWER: d
POINTS: 1
REFERENCES: 2.4.23
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 9/26/2014 4:49 AM

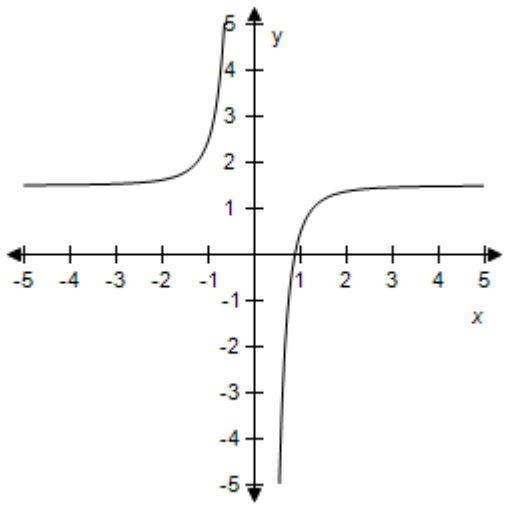
9. Select the correct graph of the given function.

$f(x) = 1.5 - 2x^2$

a.

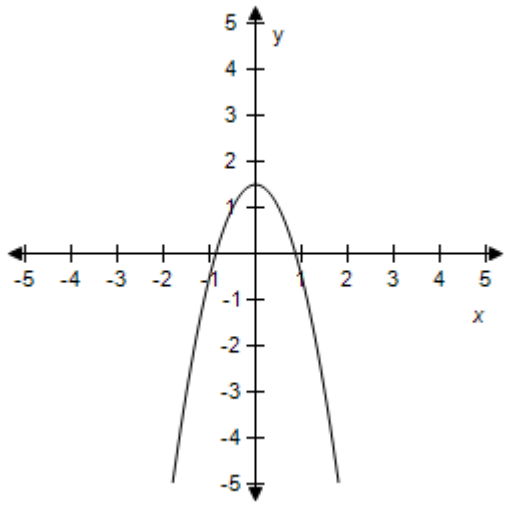


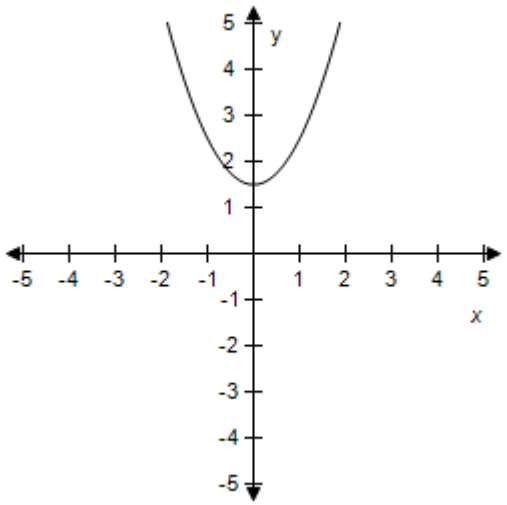
b.



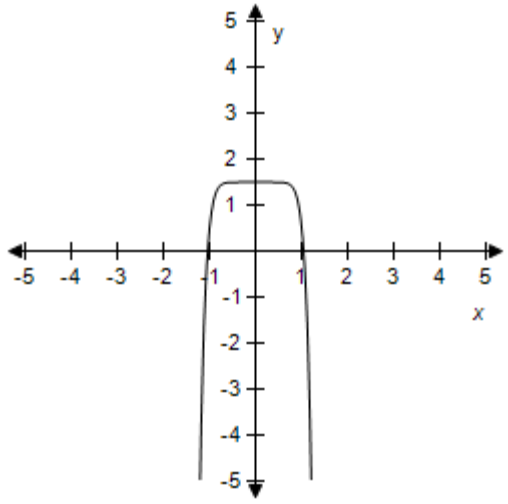
c.

d.





e.



ANSWER: c
POINTS: 1
REFERENCES: 2.4.24
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 9/26/2014 5:02 AM

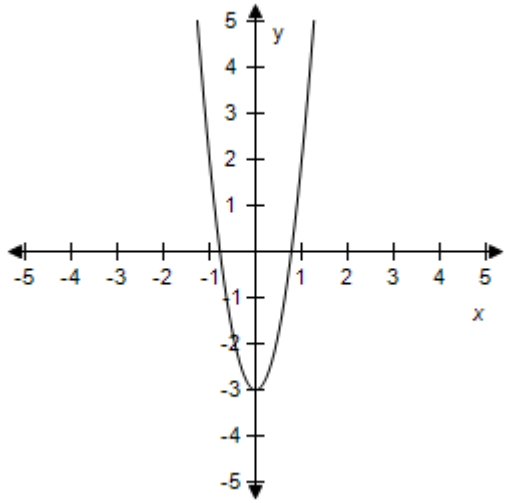
10. Select the correct graph of the given function.

$f(x) = 5x^2 - 1$

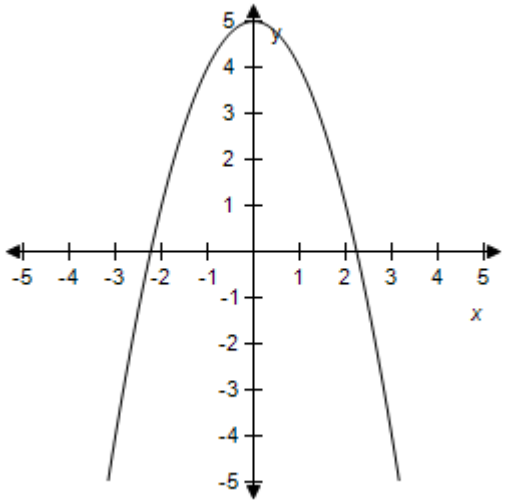
a.

b.

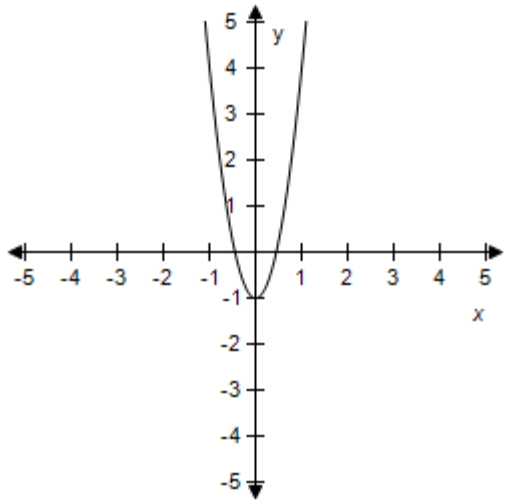
Section 2.4 - A Library of Parent Functions



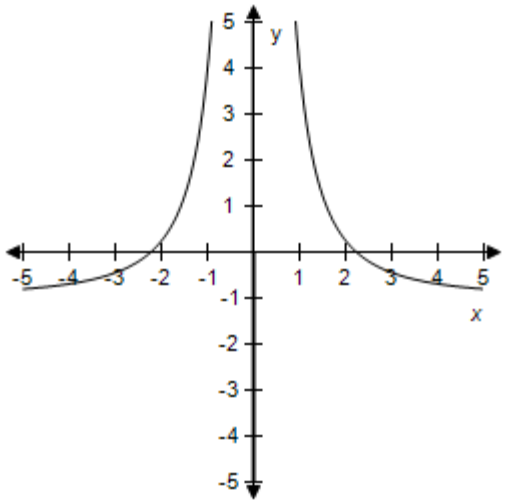
c.



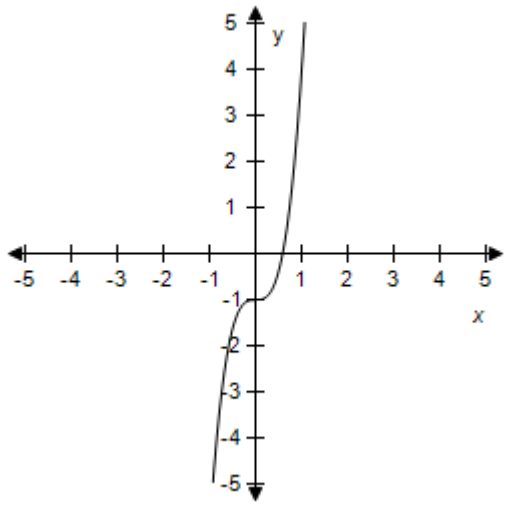
d.



e.



Section 2.4 - A Library of Parent Functions

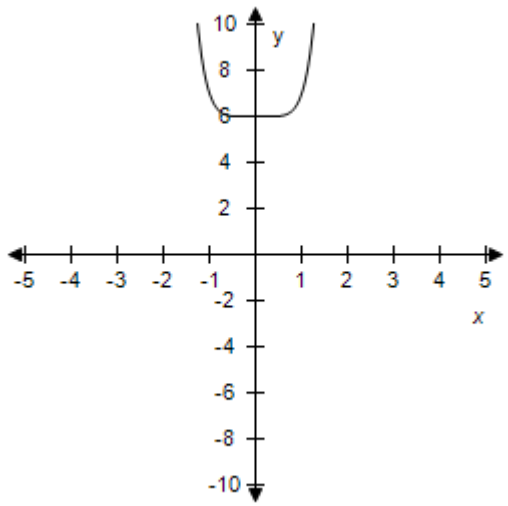


ANSWER: c
POINTS: 1
REFERENCES: 2.4.25
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 10/24/2014 7:28 AM

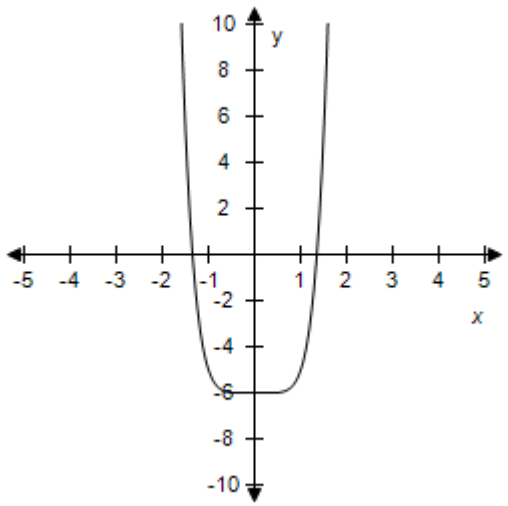
11. Select the correct graph of the given function.

$f(x) = x^6 - 6$

a.



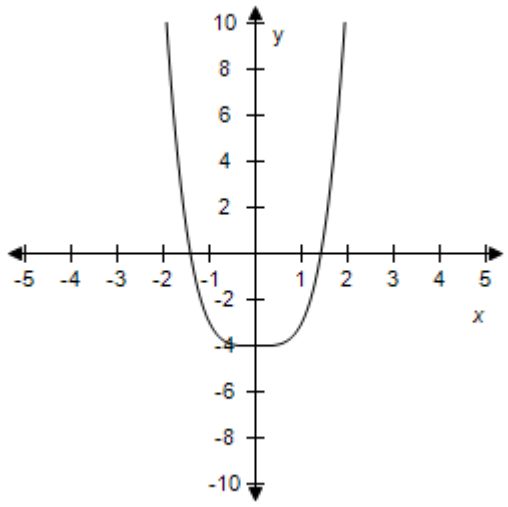
b.

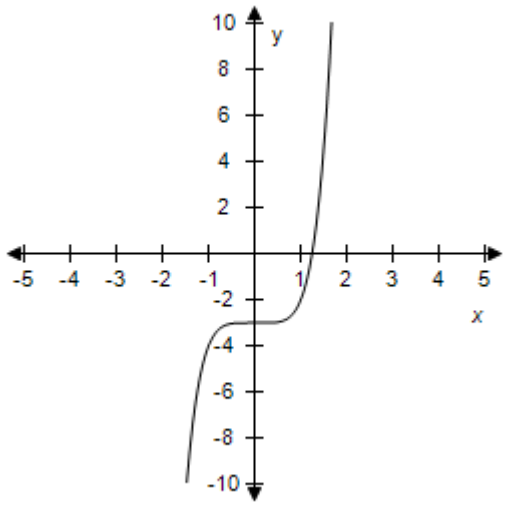


c.

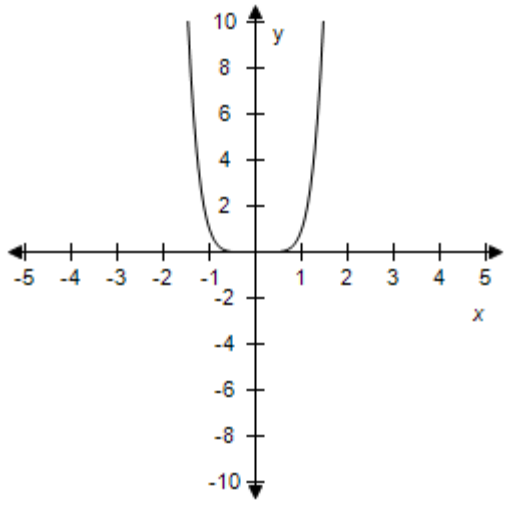
d.

Section 2.4 - A Library of Parent Functions





e.



ANSWER: b
POINTS: 1
REFERENCES: 2.4.27
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 9/26/2014 5:33 AM

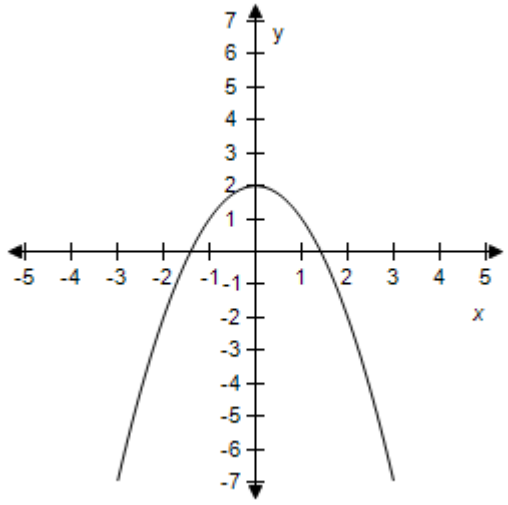
12. Select the correct graph of the given function.

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

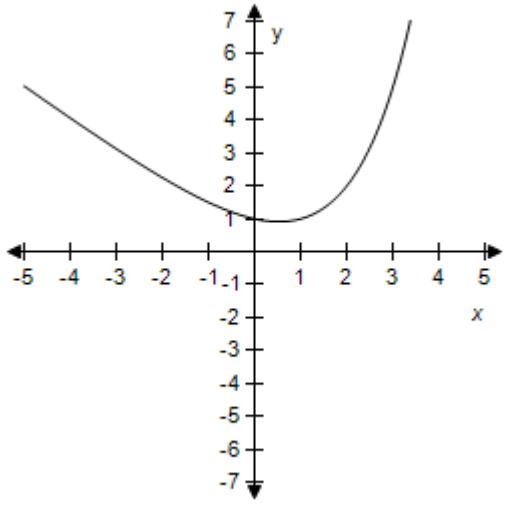
a.

b.

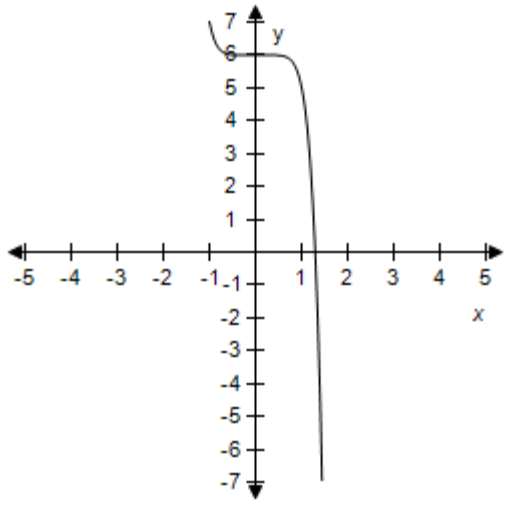
Section 2.4 - A Library of Parent Functions



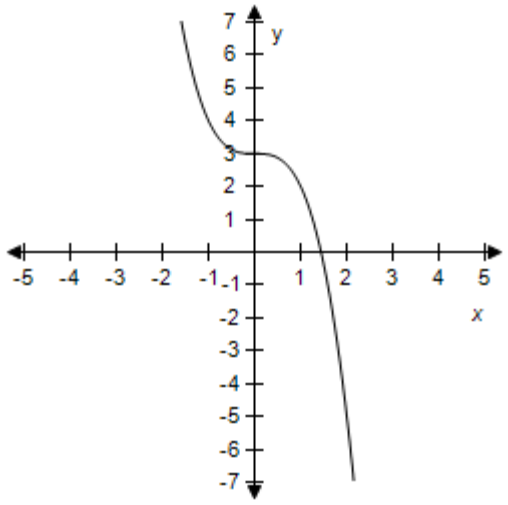
c.



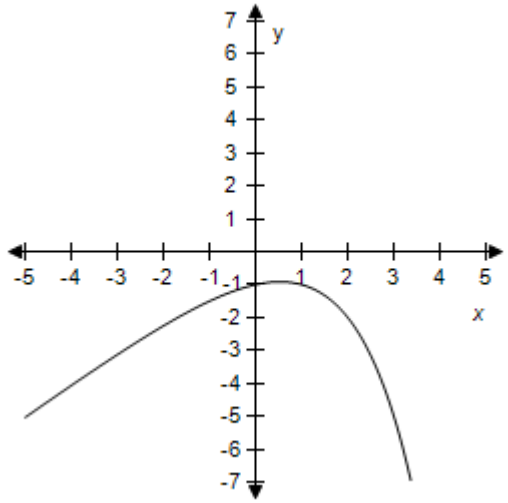
d.



e.



Section 2.4 - A Library of Parent Functions

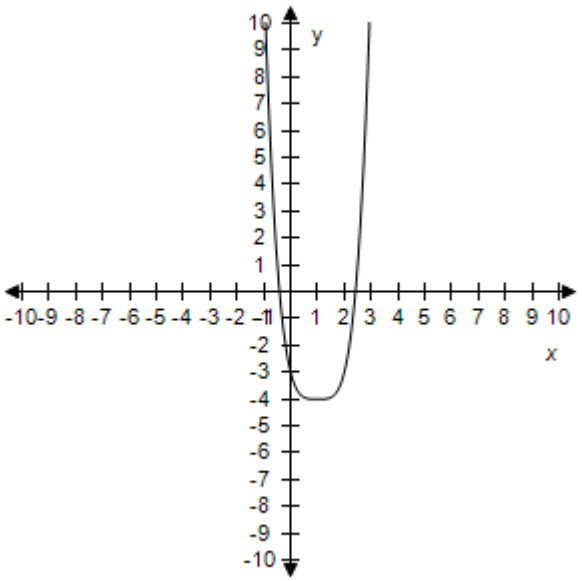


ANSWER: a
POINTS: 1
REFERENCES: 2.4.28
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 9/26/2014 5:41 AM

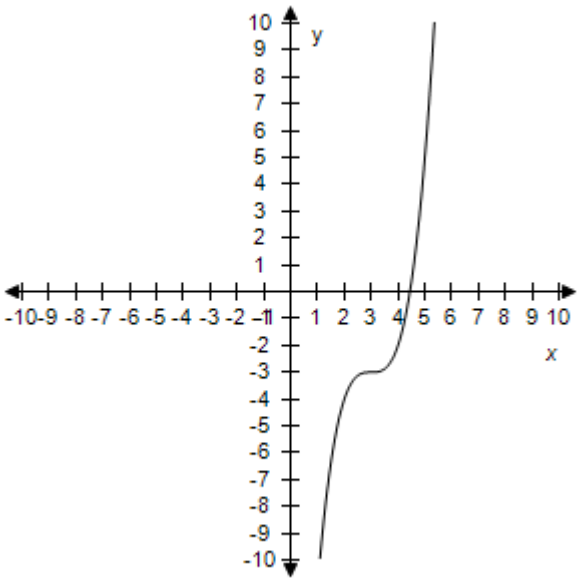
13. Select the correct graph of the given function.

$f(x) = (x-3)^3 - 3$

a.

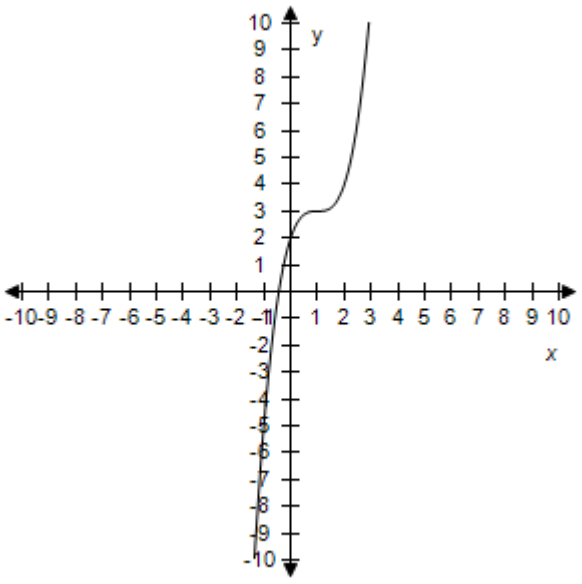


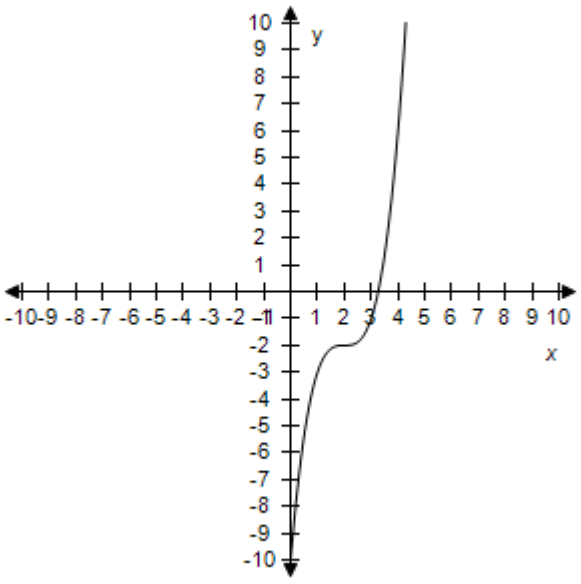
b.



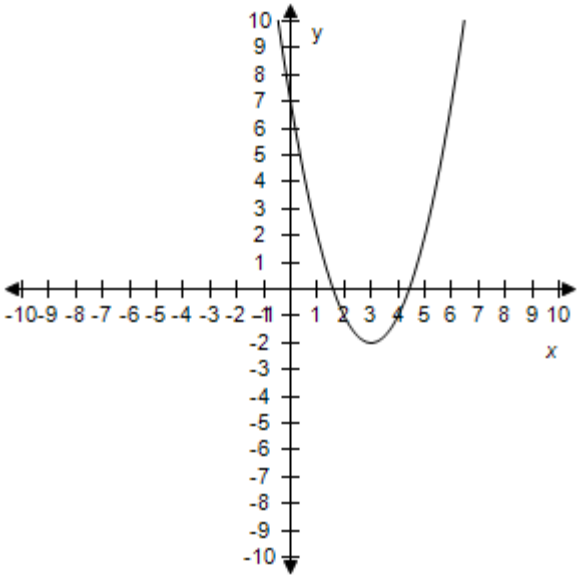
c.

d.





e.



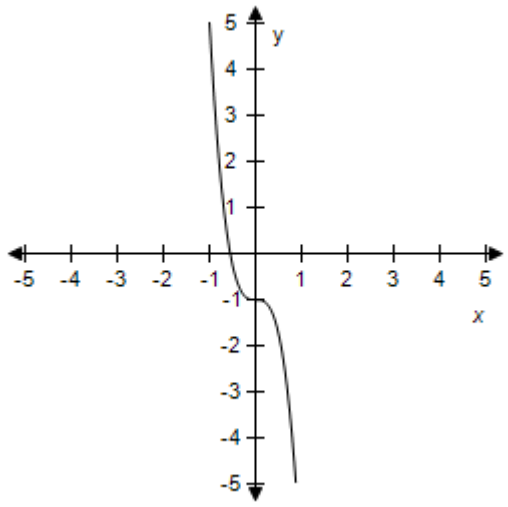
ANSWER: b
POINTS: 1
REFERENCES: 2.4.29
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 9/26/2014 6:11 AM

14. Select the correct graph for the given function.

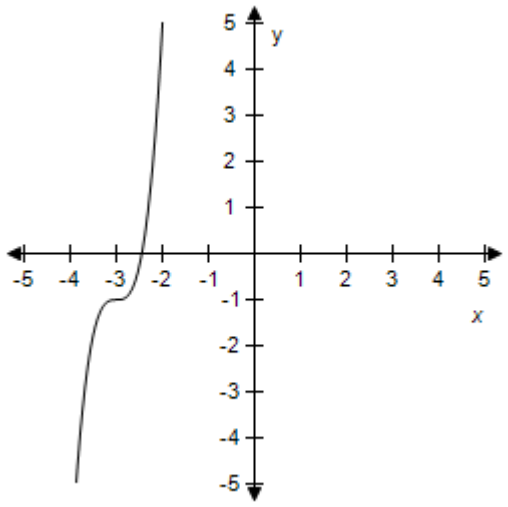
Section 2.4 - A Library of Parent Functions

$f(x) = 6(x+3)^3 - 1$

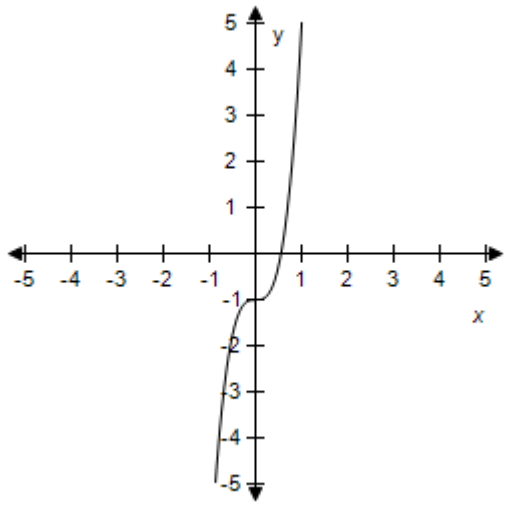
a.



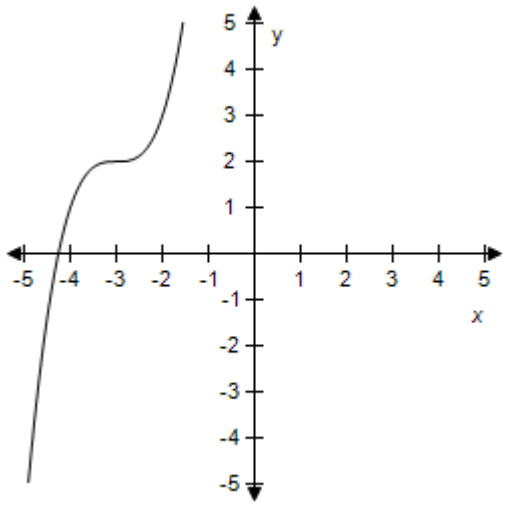
b.



c.

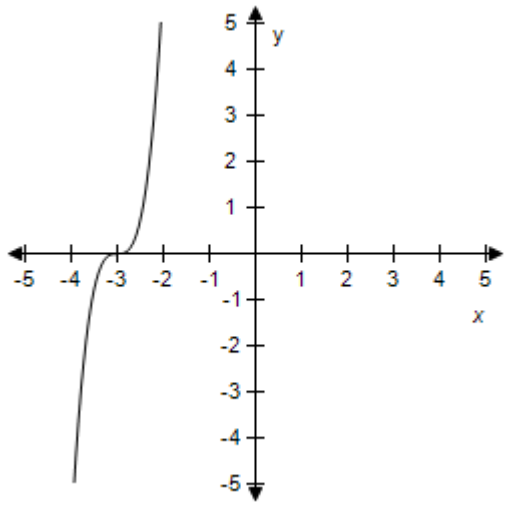


d.



e.

Section 2.4 - A Library of Parent Functions

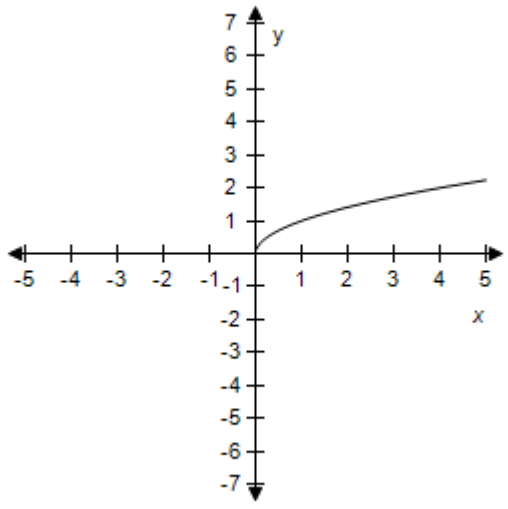


ANSWER: b
POINTS: 1
REFERENCES: 2.4.30
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 9:45 AM

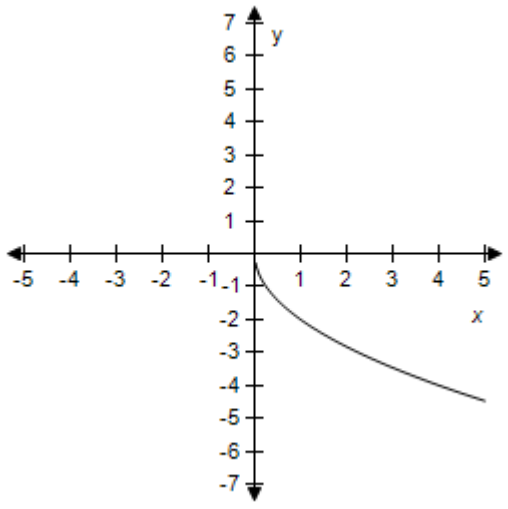
15. Select the correct graph for the given function.

$f(x) = 2\sqrt{x}$

a.

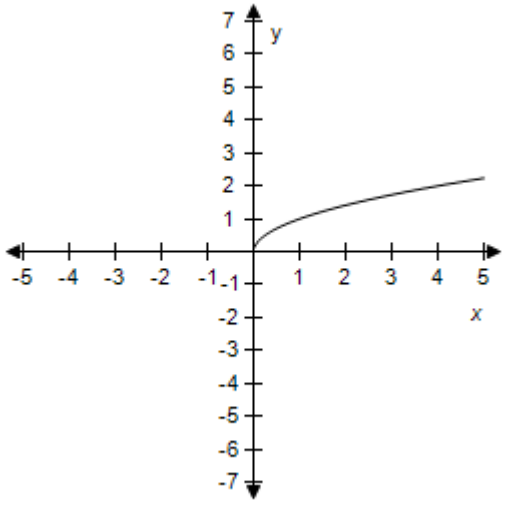


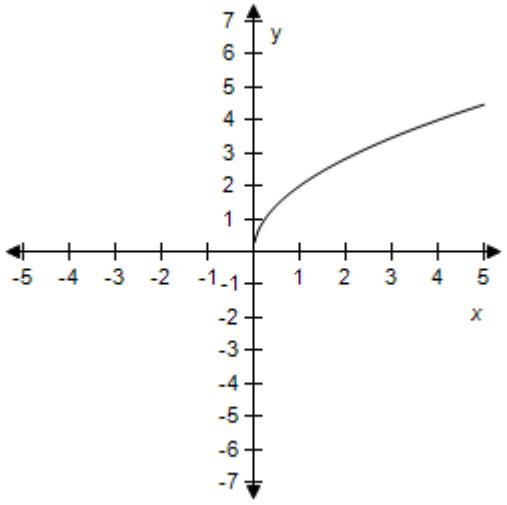
b.



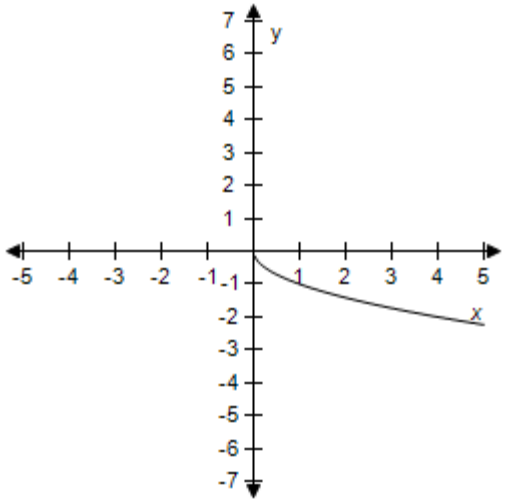
c.

d.





e.



ANSWER: d
POINTS: 1
REFERENCES: 2.4.31
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 9:48 AM

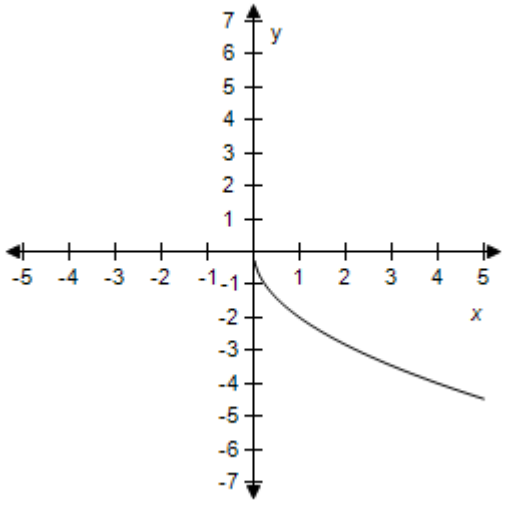
16. Select the correct graph of the given function.

$f(x) = 1 - 2\sqrt{x}$

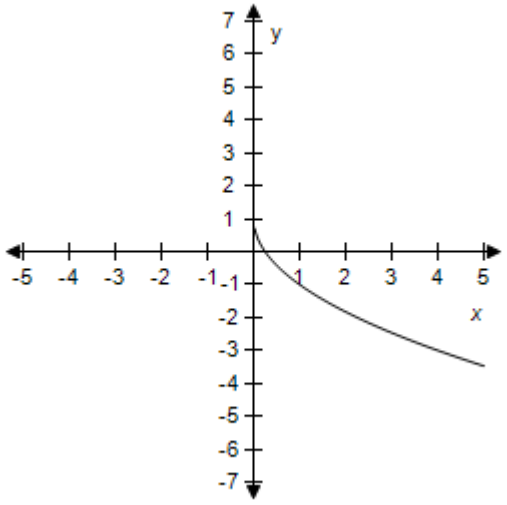
a.

b.

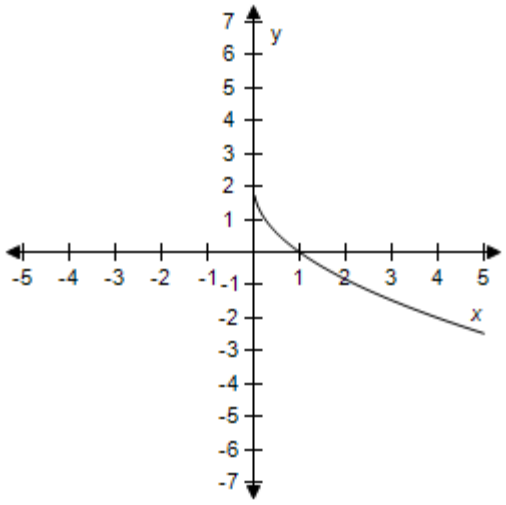
Section 2.4 - A Library of Parent Functions



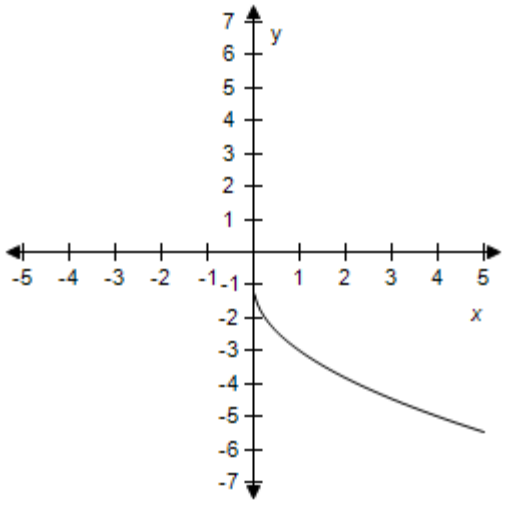
c.



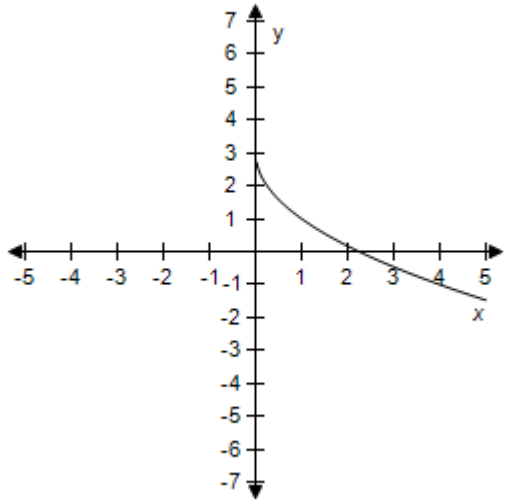
d.



e.



Section 2.4 - A Library of Parent Functions

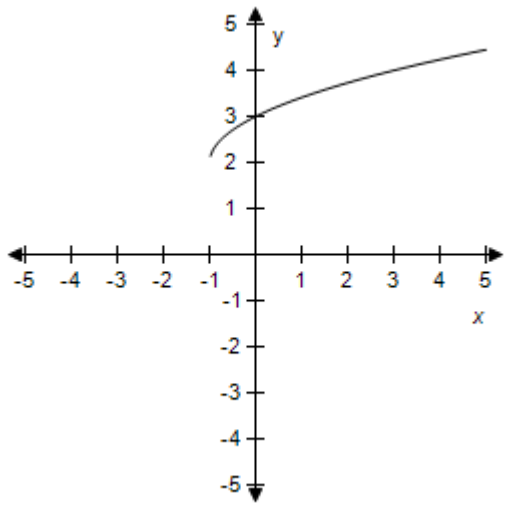


ANSWER: b
POINTS: 1
REFERENCES: 2.4.32
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 9/26/2014 6:43 AM

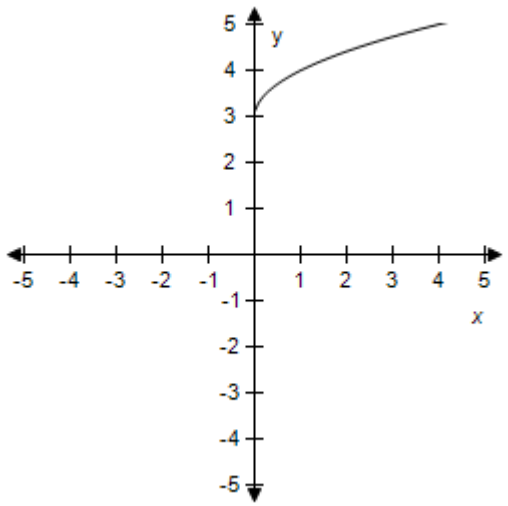
17. Select the correct graph of the given function.

$f(x) = \sqrt{x+1} + 2$

a.



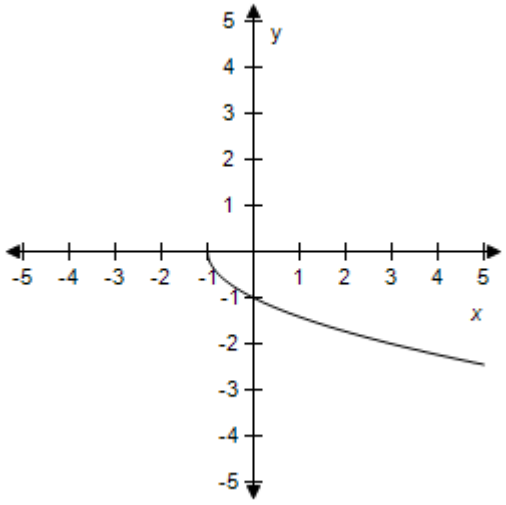
b.

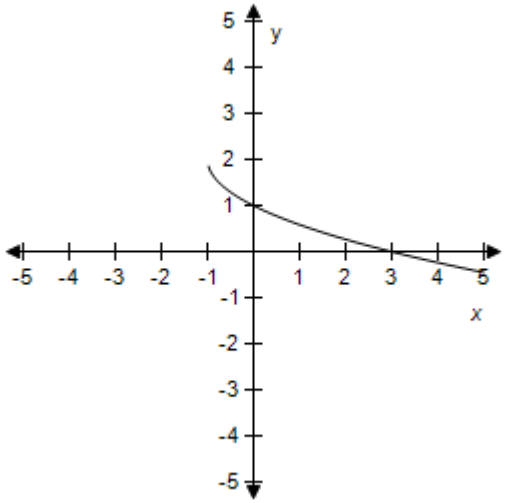


c.

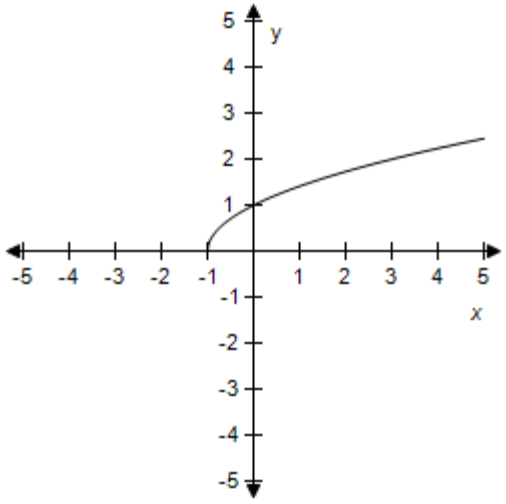
d.

Section 2.4 - A Library of Parent Functions





e.



ANSWER: a
POINTS: 1
REFERENCES: 2.4.34
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 9/26/2014 7:00 AM

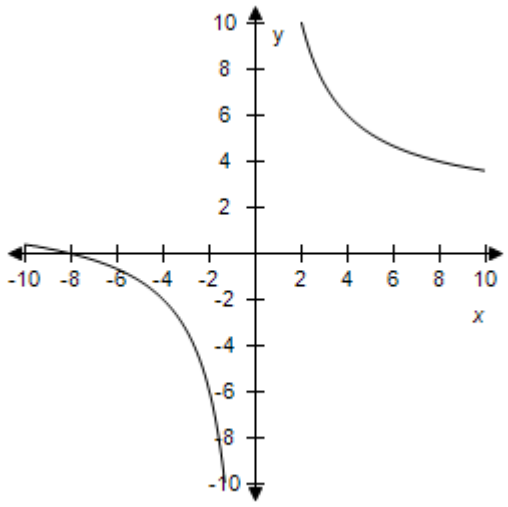
18. Select the correct graph of the given function.

$$f(x) = -\frac{8}{x}$$

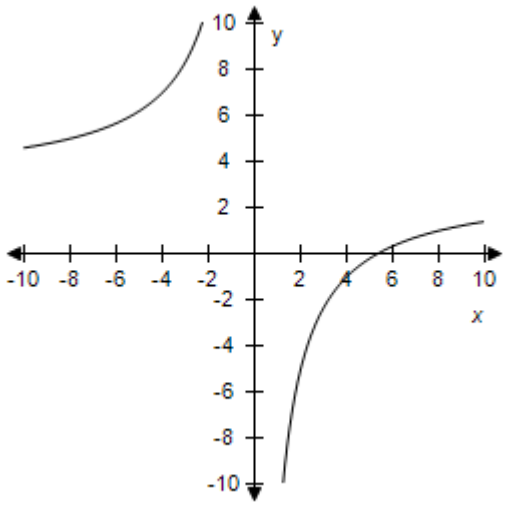
a.

b.

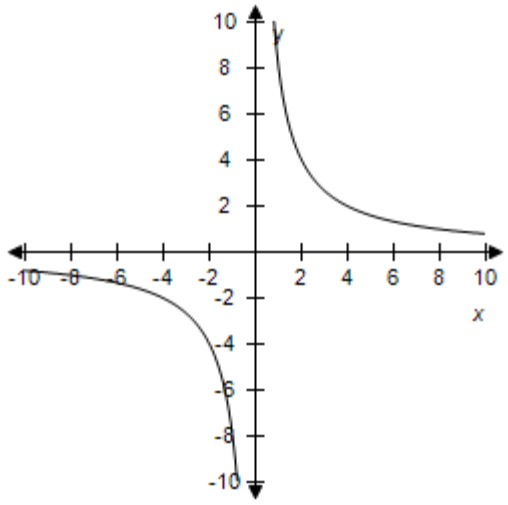
Section 2.4 - A Library of Parent Functions



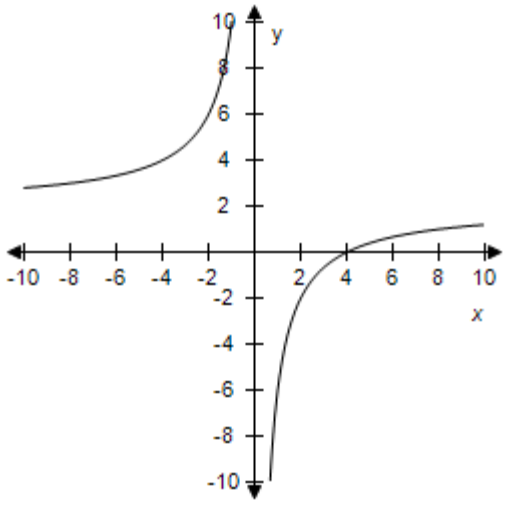
c.



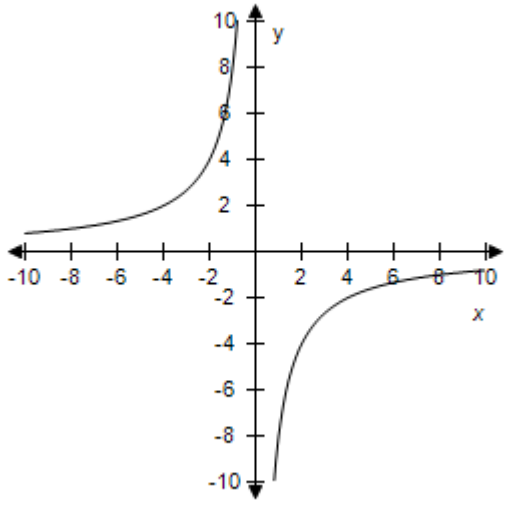
d.



e.



Section 2.4 - A Library of Parent Functions

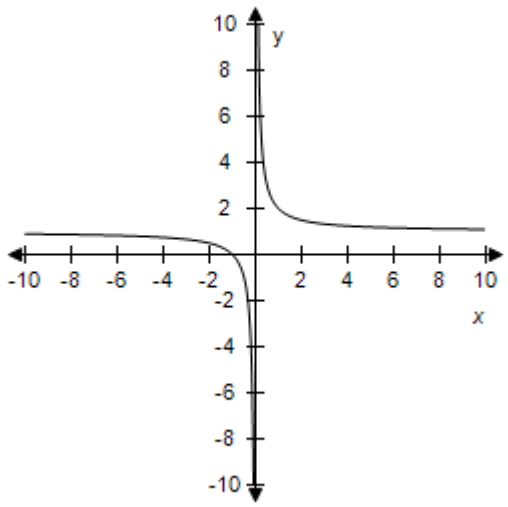


ANSWER: e
POINTS: 1
REFERENCES: 2.4.35
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 9/26/2014 7:38 AM

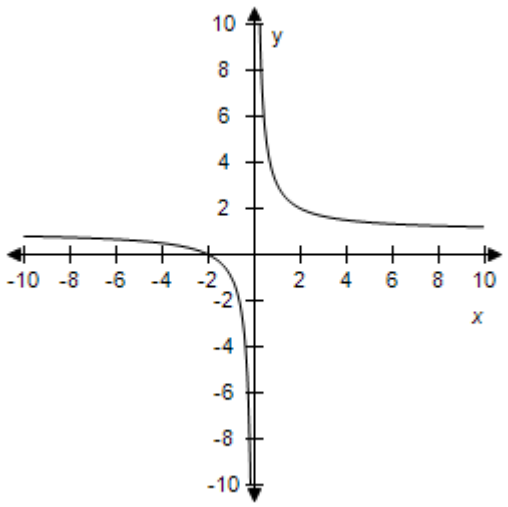
19. Select the correct graph of the given function.

$$f(x) = 1 + \frac{1}{x}$$

a.



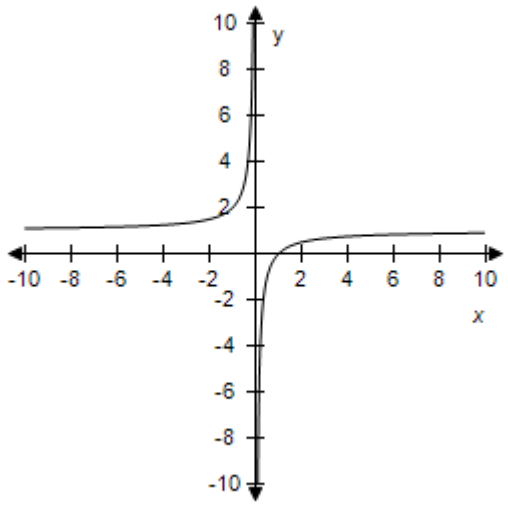
b.

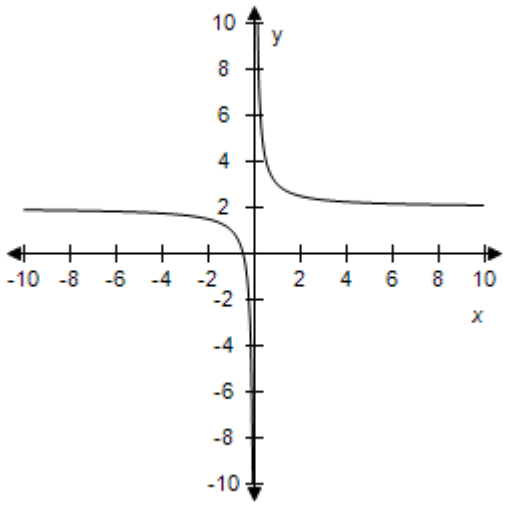


c.

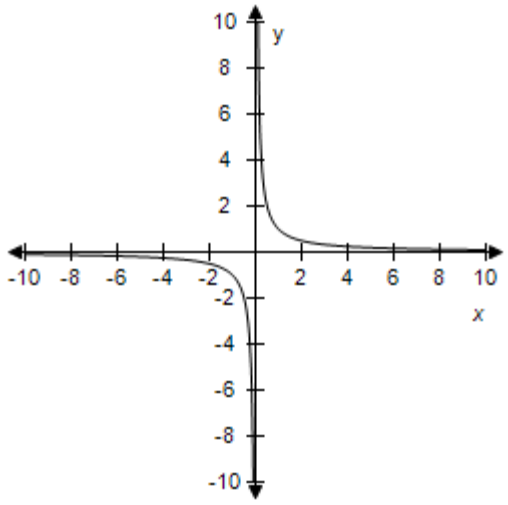
d.

Section 2.4 - A Library of Parent Functions





e.



ANSWER: a
POINTS: 1
REFERENCES: 2.4.36
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 9:53 AM

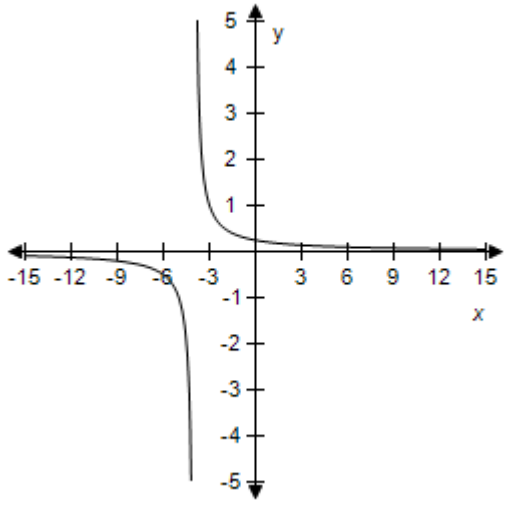
20. Select the correct graph of the given function.

$$f(x) = \frac{1}{x+1}$$

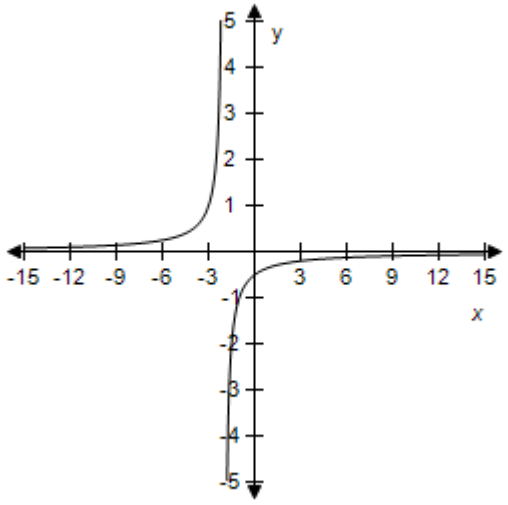
a.

b.

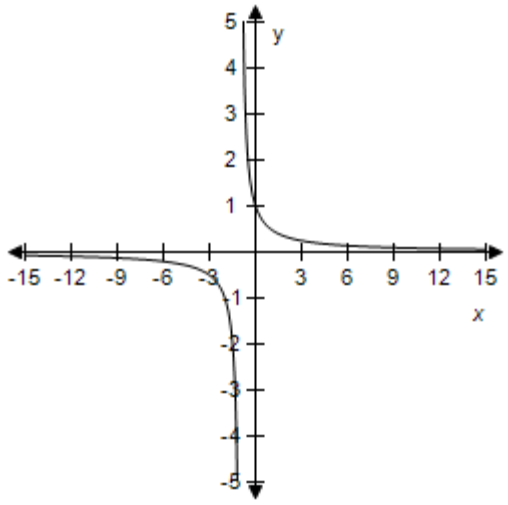
c.

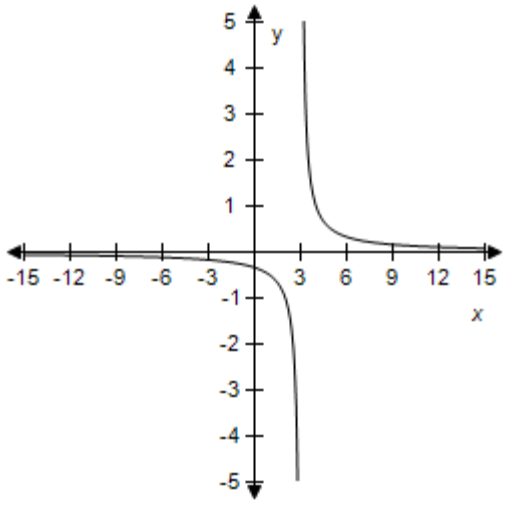


d.

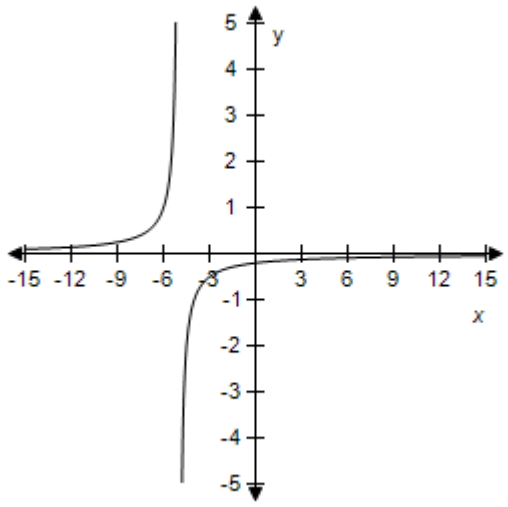


e.





Section 2.4 - A Library of Parent Functions

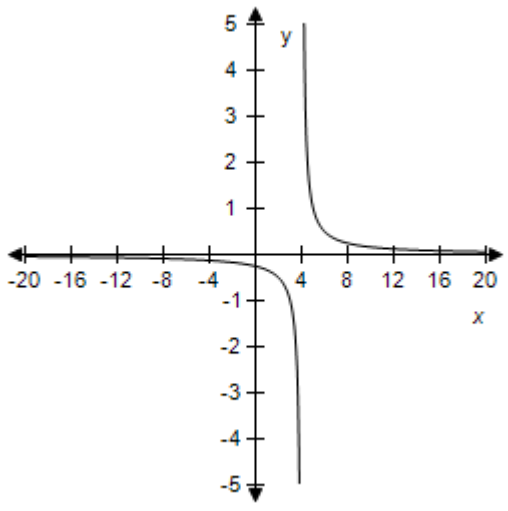


ANSWER: c
POINTS: 1
REFERENCES: 2.4.37
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 9:58 AM

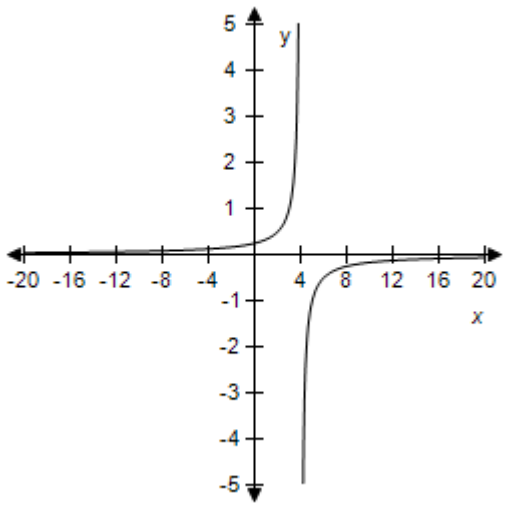
21. Select the correct graph of the given function.

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

a.



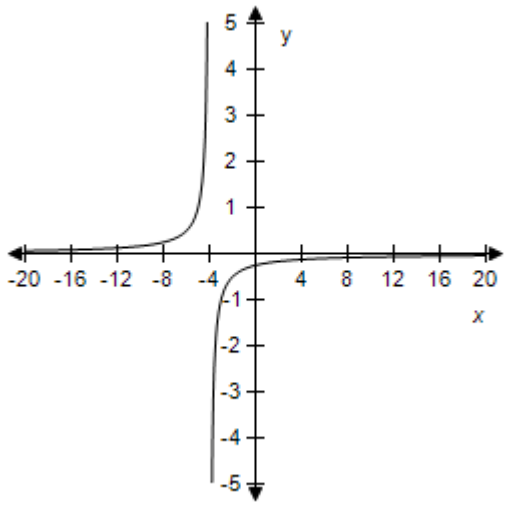
b.

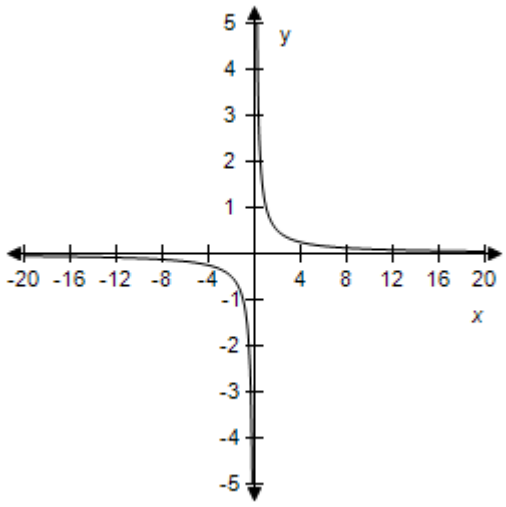


c.

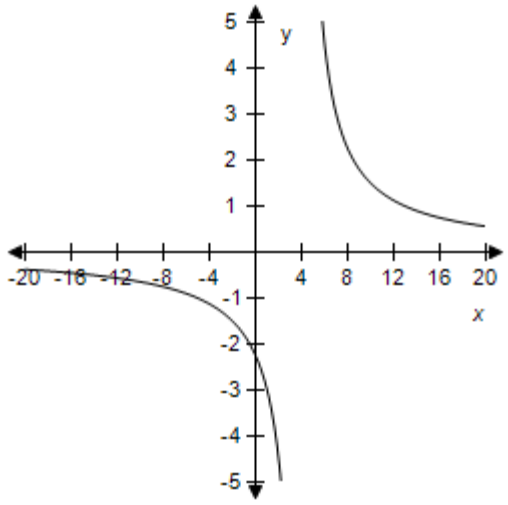
d.

Section 2.4 - A Library of Parent Functions





e.



ANSWER: a
POINTS: 1
REFERENCES: 2.4.38
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:00 AM

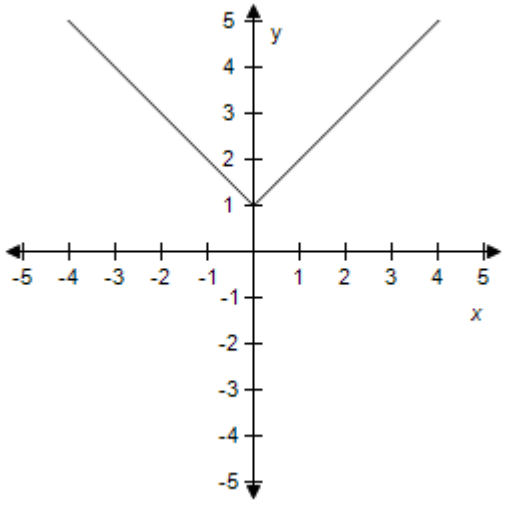
22. Select the correct graph of the given function.

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

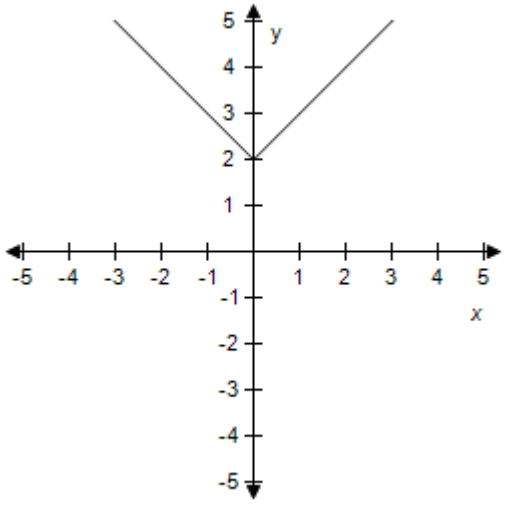
a.

b.

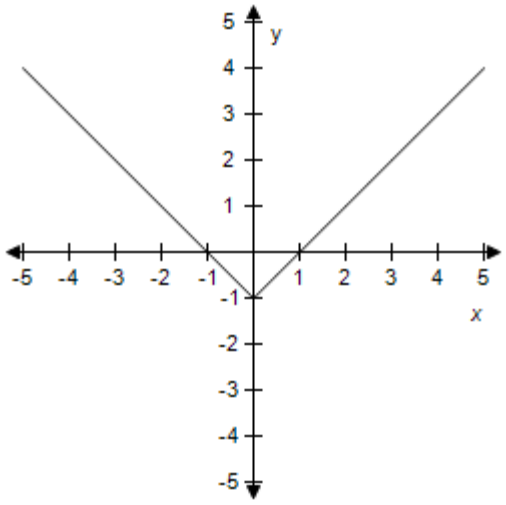
c.

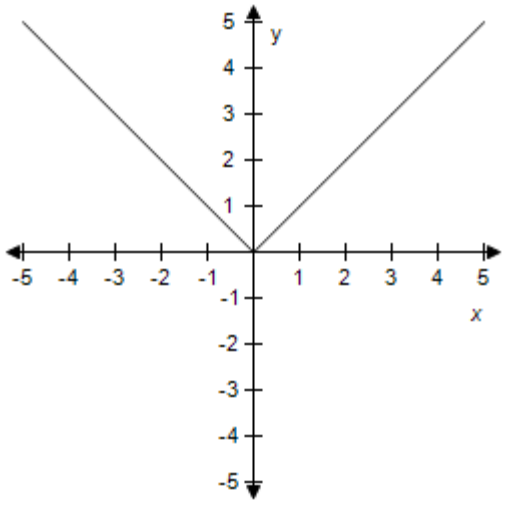


d.

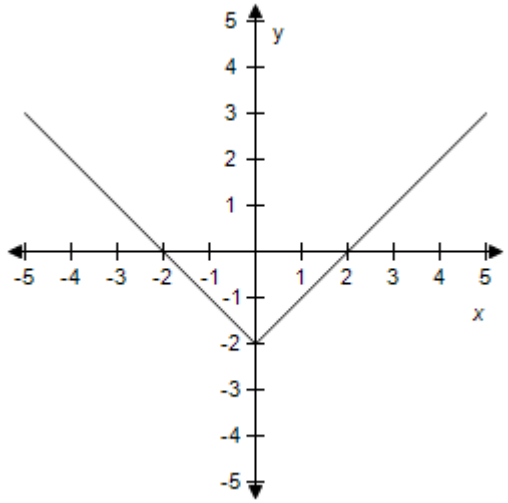


e.





Section 2.4 - A Library of Parent Functions

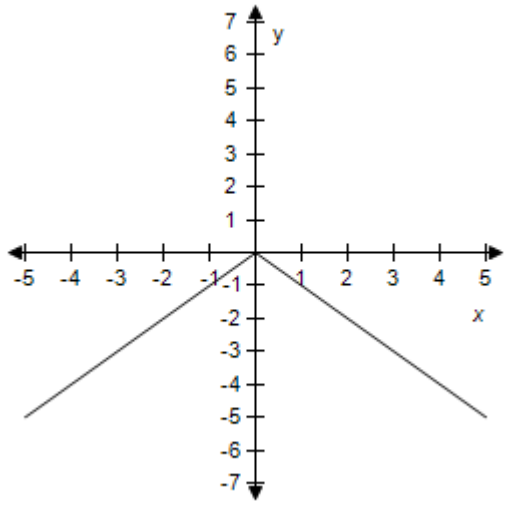


ANSWER: e
POINTS: 1
REFERENCES: 2.4.39
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 9/29/2014 1:01 AM

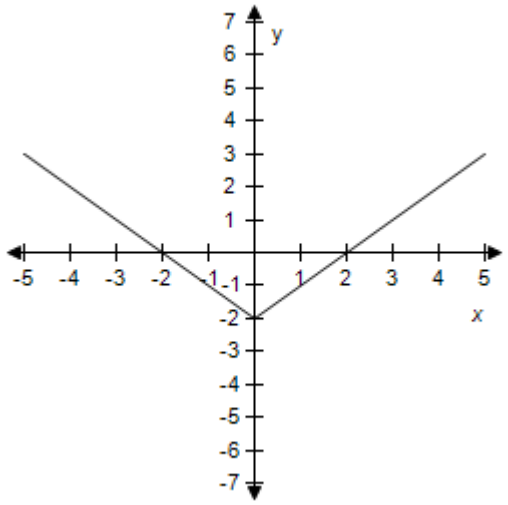
23. Select the correct graph of the given function.

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

a.



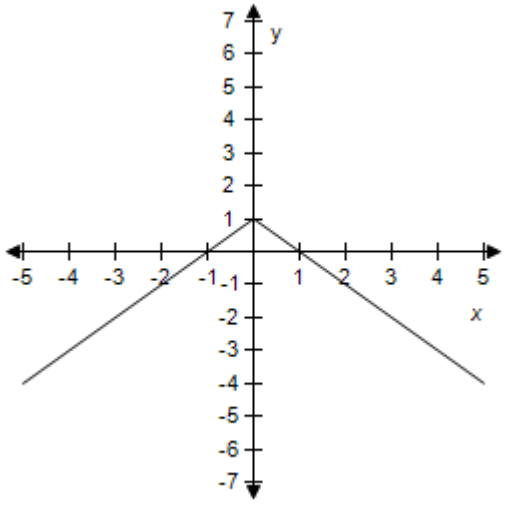
b.

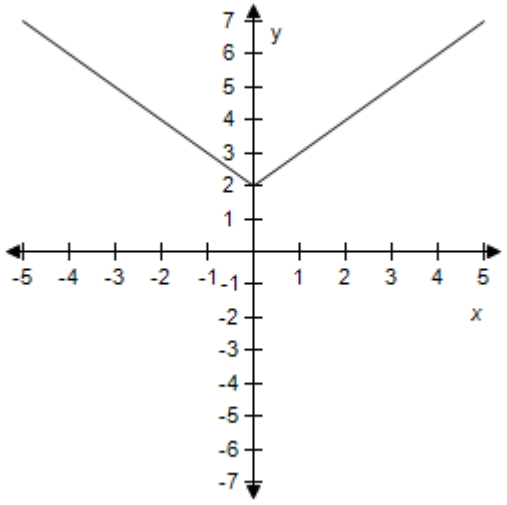


c.

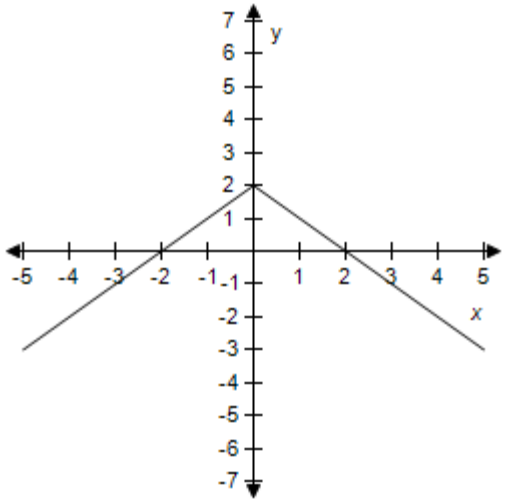
d.

Section 2.4 - A Library of Parent Functions





e.



ANSWER: e
POINTS: 1
REFERENCES: 2.4.40
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 9/29/2014 1:09 AM

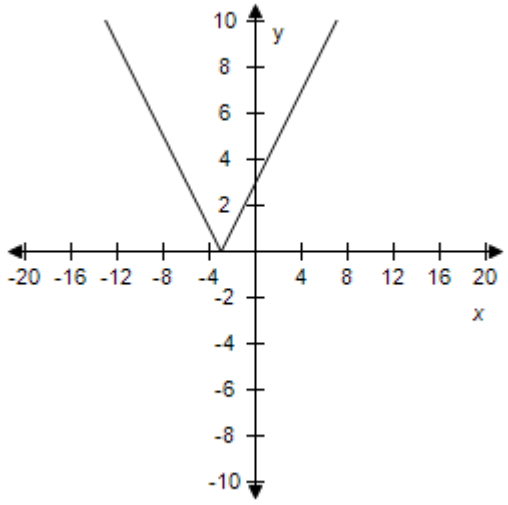
24. Select the correct graph of the given function.

$f(x) = |x + 3|$

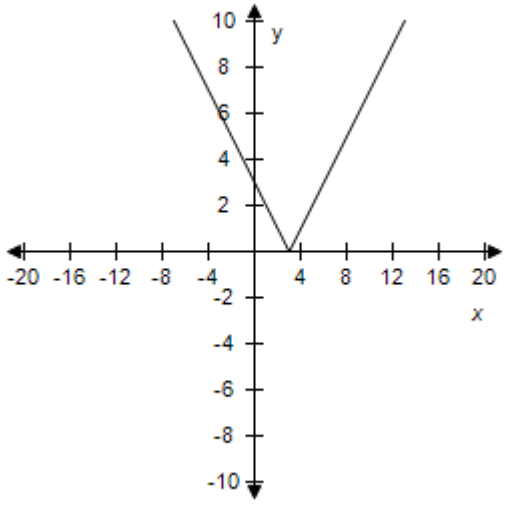
a.

b.

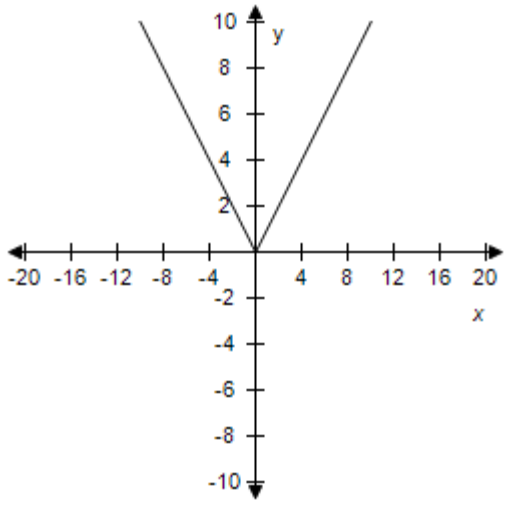
c.

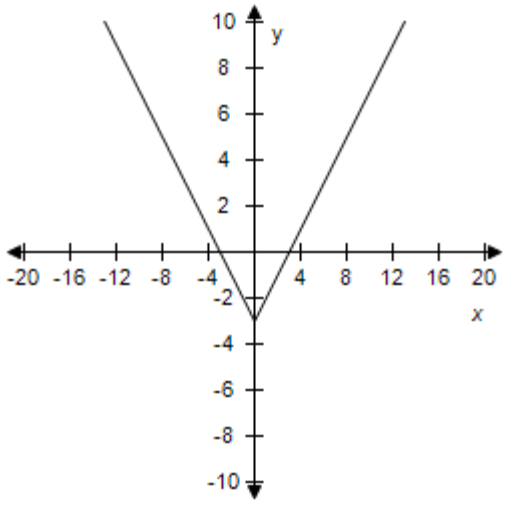


d.

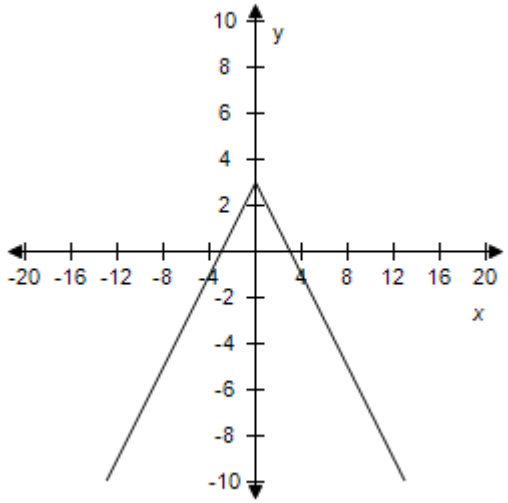


e.





Section 2.4 - A Library of Parent Functions

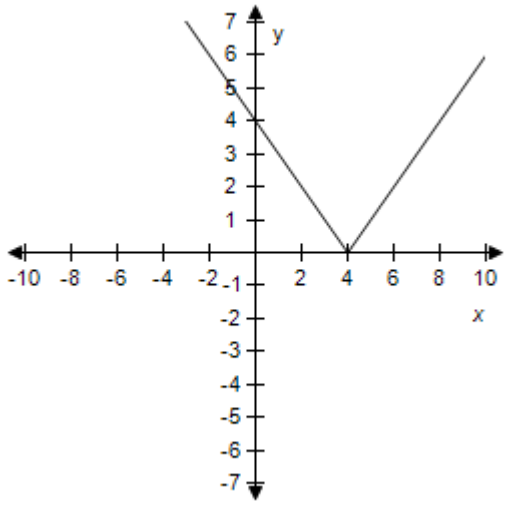


ANSWER: a
POINTS: 1
REFERENCES: 2.4.41
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:02 AM

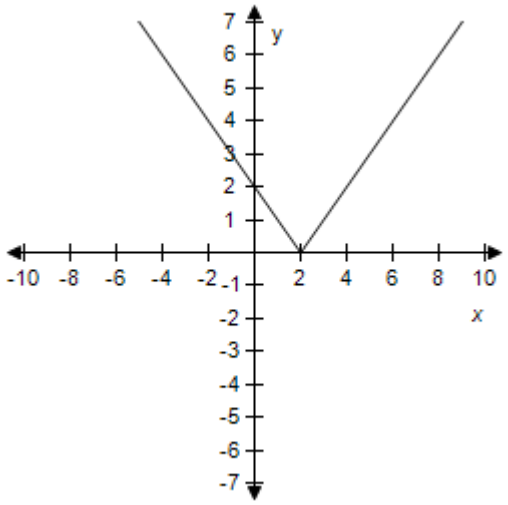
25. Select the correct graph of the given function.

$f(x) = |x - 6|$

a.

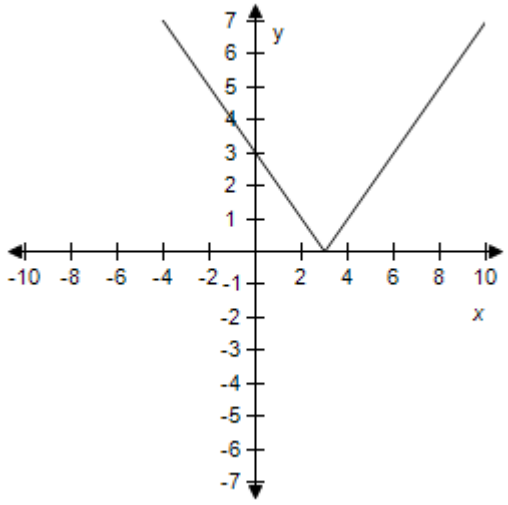


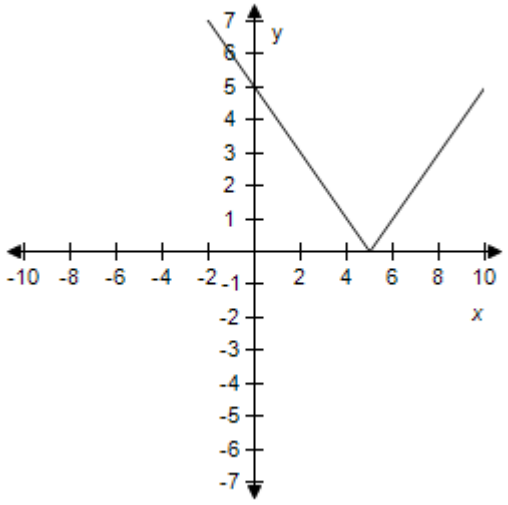
b.



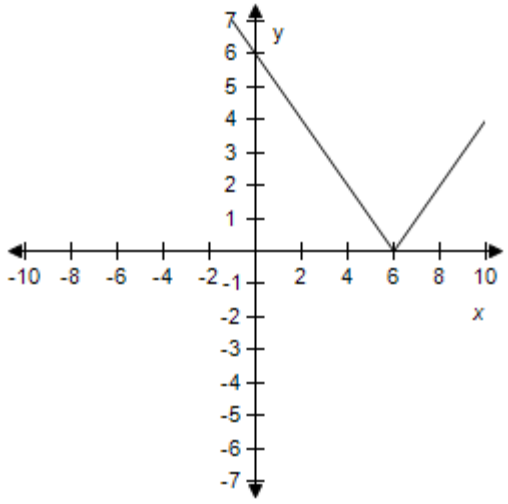
c.

d.





e.



ANSWER: e
POINTS: 1
REFERENCES: 2.4.42
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 9/29/2014 1:32 AM

26. Evaluate the function $f(x) = [[x]]$ for $x = 9.2$.

a. $f(x) = 2$
b. $f(x) = 10$
c. $f(x) = 9$
d. $f(x) = -9$

e. $f(x) = 11$

ANSWER: c
POINTS: 1
REFERENCES: 2.4.43a
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:04 AM

27. Evaluate the function $h(x) = 2[[x]]$ for $x = -4$.

a. $h(x) = -8$
b. $h(x) = -6$
c. $h(x) = 4$
d. $h(x) = -4$
e. $h(x) = -2$

ANSWER: a
POINTS: 1
REFERENCES: 2.4.44a
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:05 AM

28. Evaluate the function $h(x) = [[x + 9]]$ for $x = -4$.

a. $h(x) = 13$
b. $h(x) = 5$
c. $h(x) = 9$
d. $h(x) = -13$
e. $h(x) = -5$

ANSWER: b
POINTS: 1
REFERENCES: 2.4.45
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:05 AM

29. Evaluate the function $f(x) = 2[[x]] + 7$ for $x = -7$.

a. $f(x) = -21$
b. $f(x) = 2$
c. $f(x) = -2$

d. $f(x) = -7$
e. $f(x) = 7$

ANSWER: d
POINTS: 1
REFERENCES: 2.4.46
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:06 AM

30. Evaluate the function $f(x) = [[3x + 1]]$ for $x = 4$.

a. $f(x) = -4$
b. $f(x) = 4$
c. $f(x) = 11$
d. $f(x) = 13$
e. $f(x) = 12$

ANSWER: d
POINTS: 1
REFERENCES: 2.4.47
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:06 AM

31. Evaluate the function $h(x) = \left[\left[\frac{1}{2}x + 9\right]\right]$ for $x = 6$.

a. $h(x) = 9$
b. $h(x) = 3$
c. $h(x) = -12$
d. $h(x) = 12$
e. $h(x) = -3$

ANSWER: d
POINTS: 1
REFERENCES: 2.4.48
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:07 AM

32. Evaluate the function $f(x) = 3[[3x - 1]] + 5$ for $x = 6$.

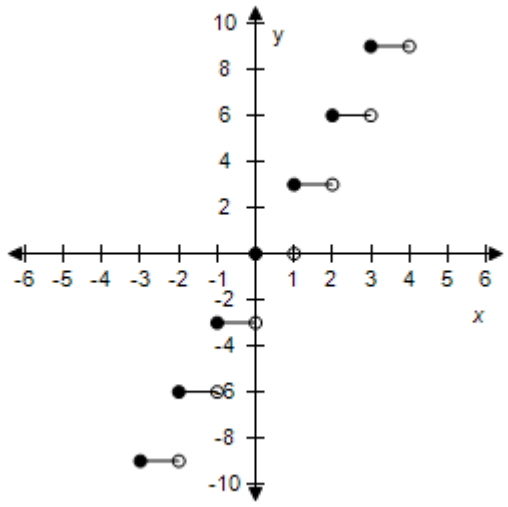
a. $f(x) = 51$

b. $f(x) = -6$
c. $f(x) = 56$
d. $f(x) = 6$
e. $f(x) = 46$

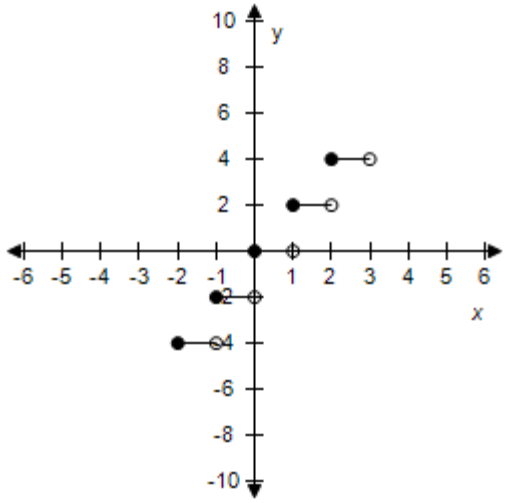
ANSWER: c
POINTS: 1
REFERENCES: 2.4.49
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:07 AM

33. Select the graph of the function $f(x) = 3[[x]]$.

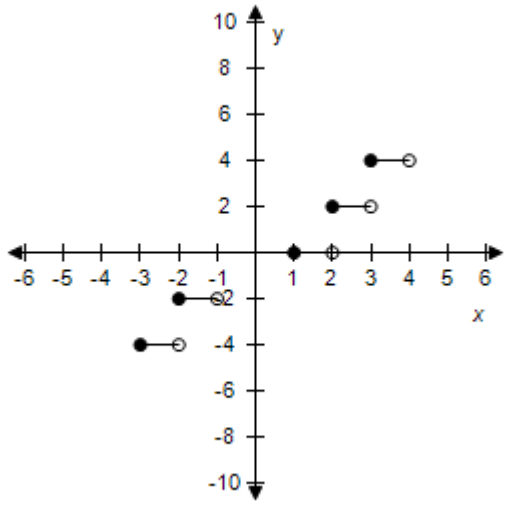
a.



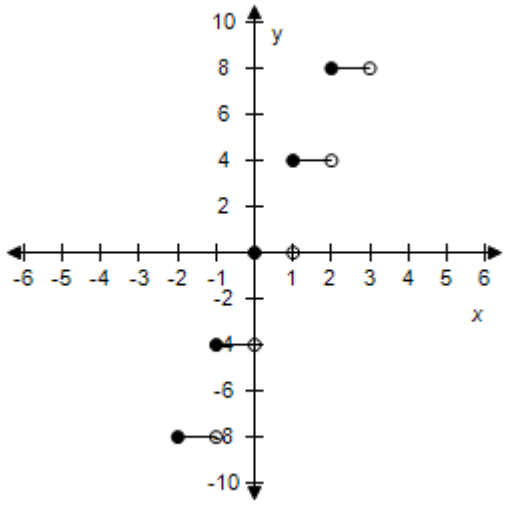
b.



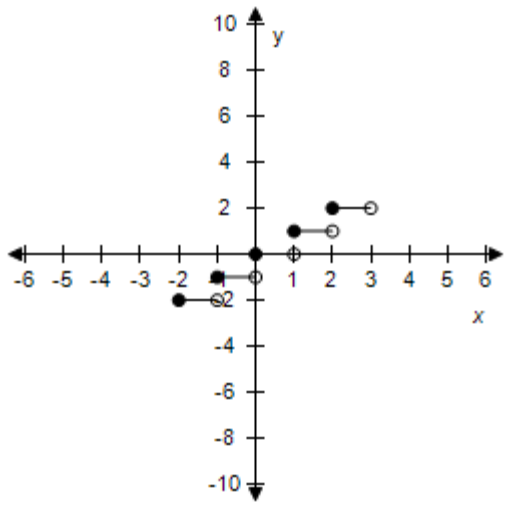
c.



d.



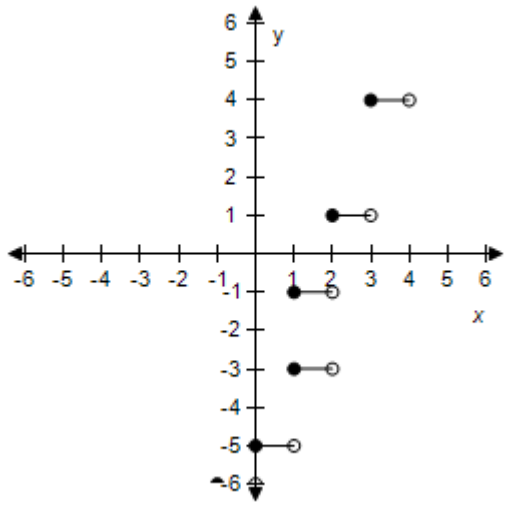
e.



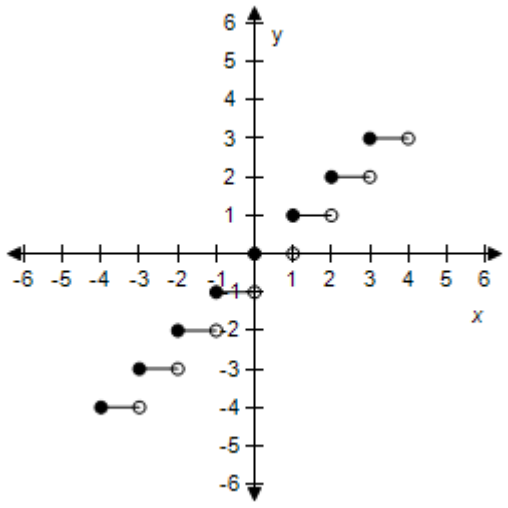
ANSWER: a
POINTS: 1
REFERENCES: 2.4.52
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:09 AM

34. Select the graph of the function: $f(x) = [[x]] - 4$.

a.

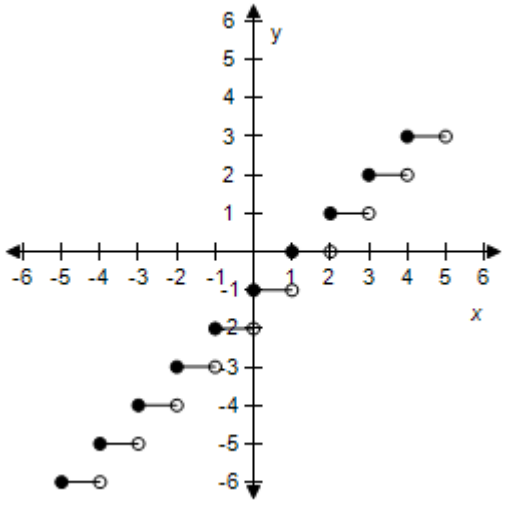


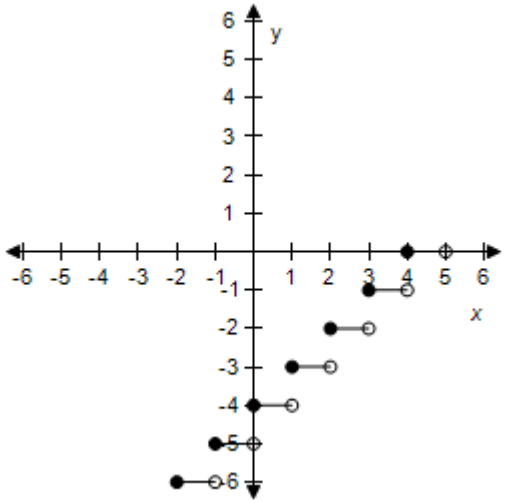
b.



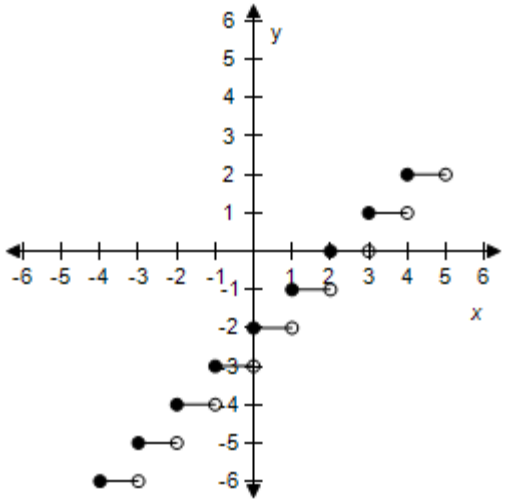
c.

d.





e.



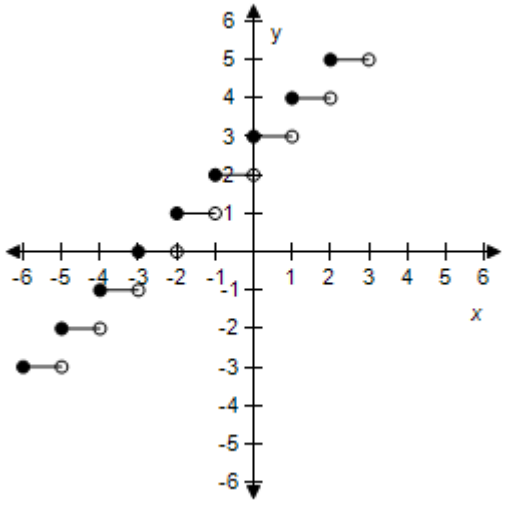
ANSWER: d
POINTS: 1
REFERENCES: 2.4.53
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:12 AM

35. Select the graph of the function: $f(x) = [[x + 3]]$.

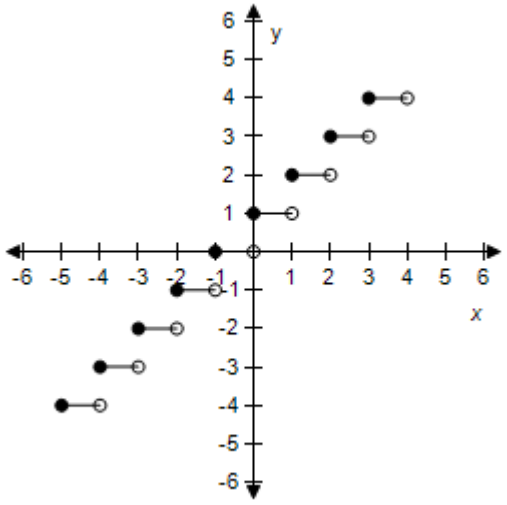
a.

b.

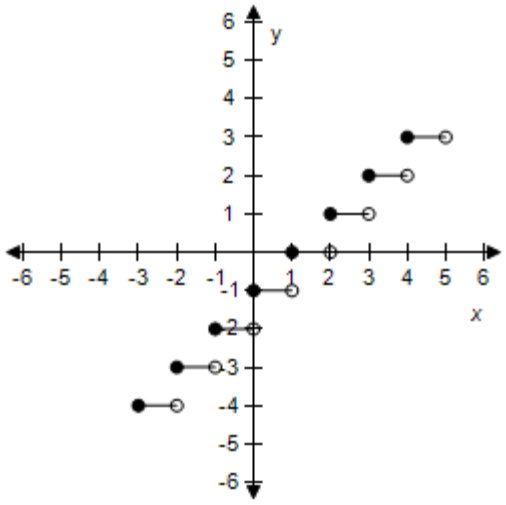
c.

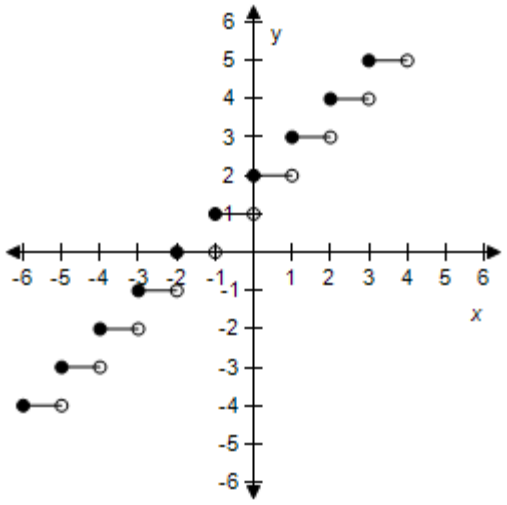


d.

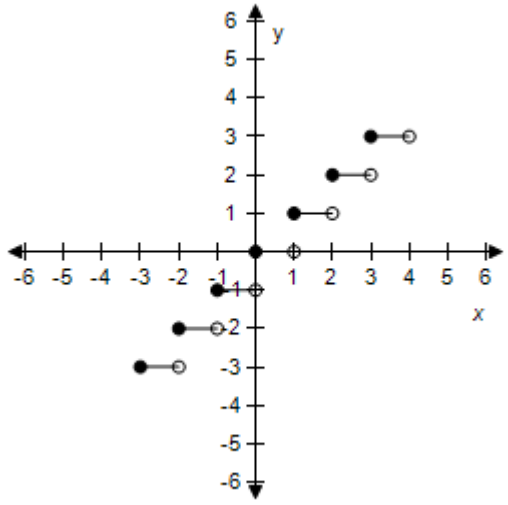


e.





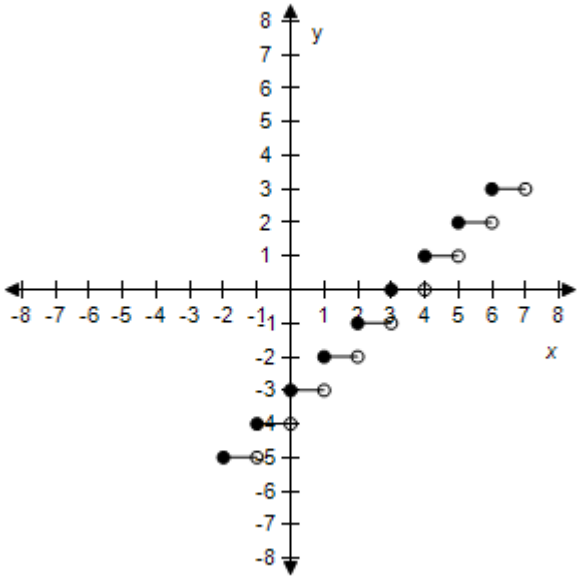
Section 2.4 - A Library of Parent Functions



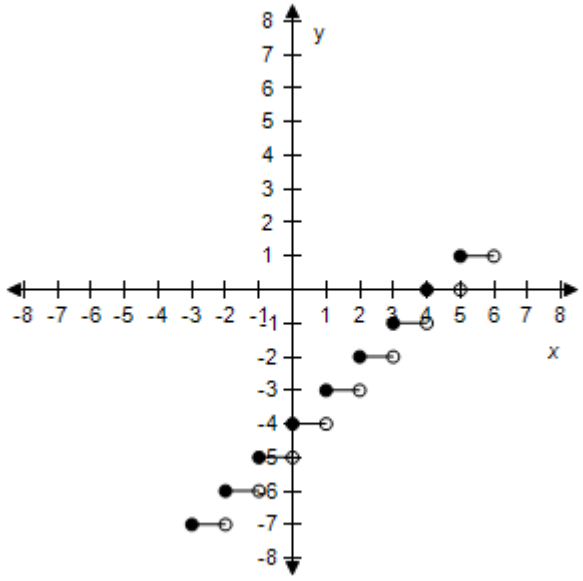
ANSWER: a
POINTS: 1
REFERENCES: 2.4.55
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:13 AM

36. Select the graph of the function $f(x) = [[x - 4]]$.

a.

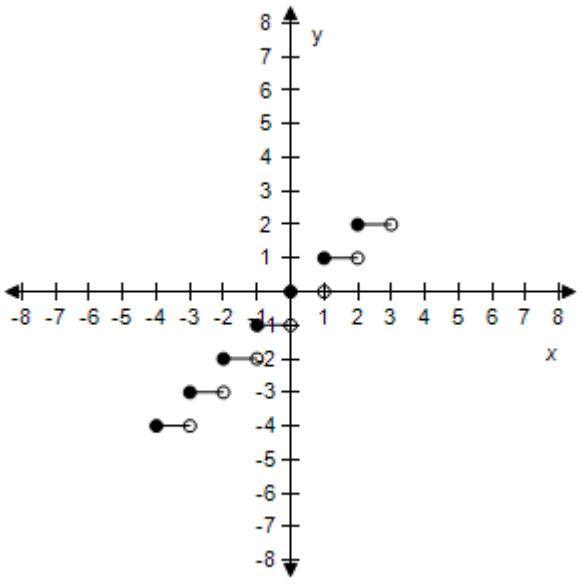


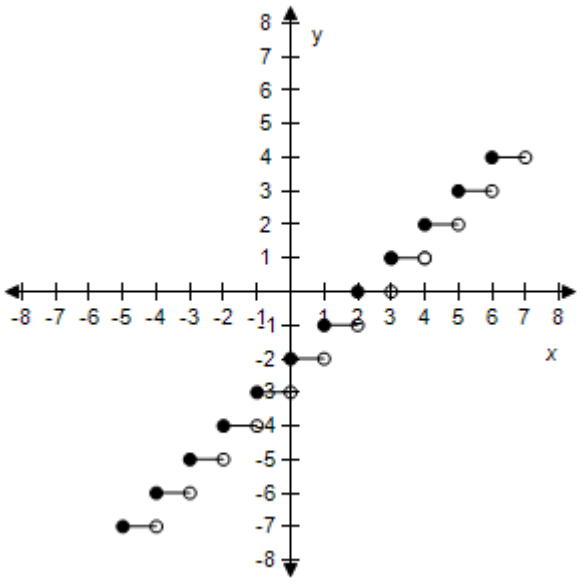
b.



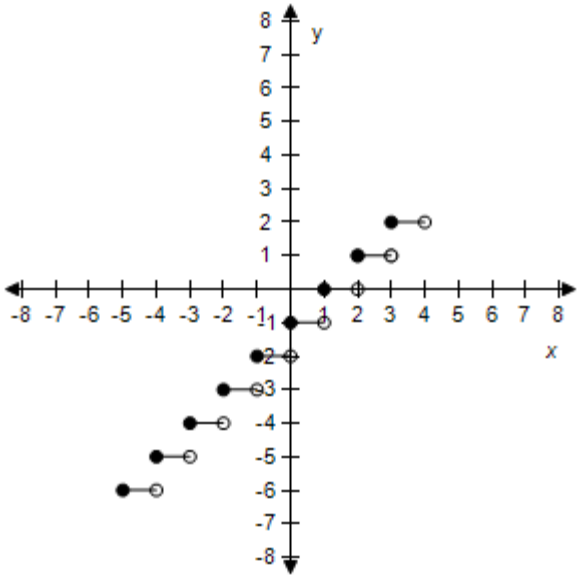
c.

d.





e.



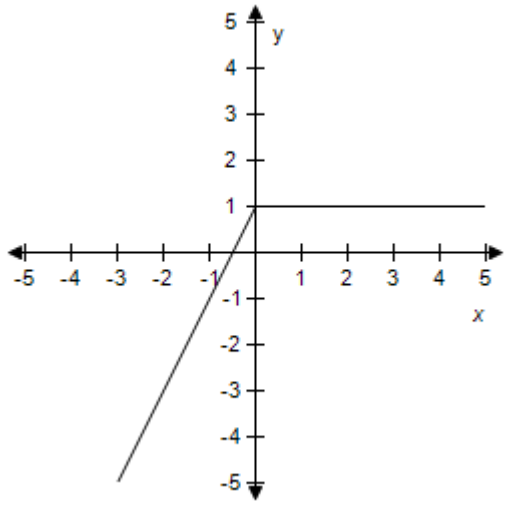
ANSWER: b
POINTS: 1
REFERENCES: 2.4.56
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:16 AM

37. Select the graph of the function.

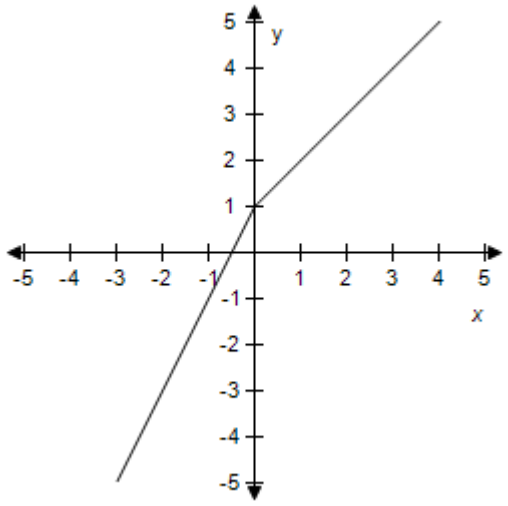
Section 2.4 - A Library of Parent Functions

$$f(x)=\begin{cases}2x+1 & x<0\\ 1-x & x\geq 0\end{cases}$$

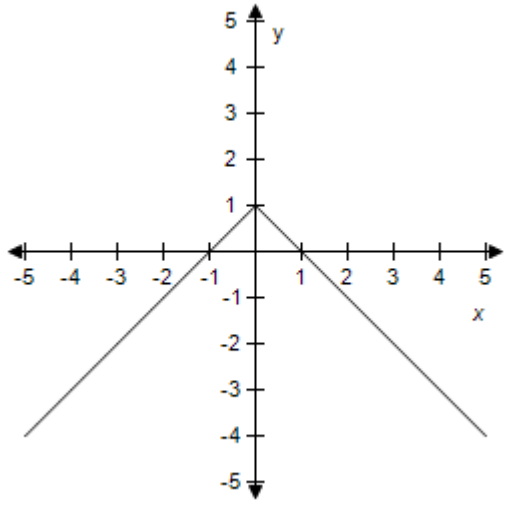
a.



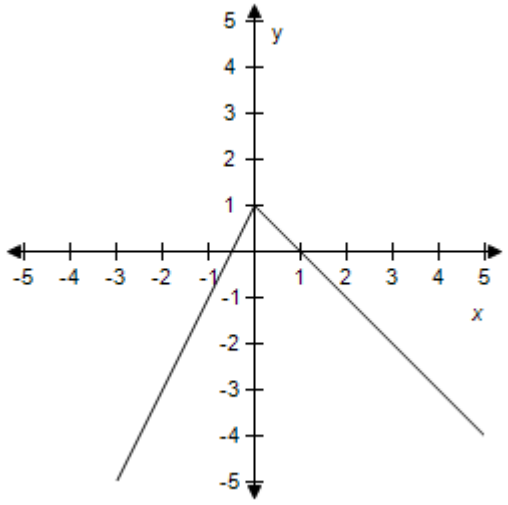
b.



c.

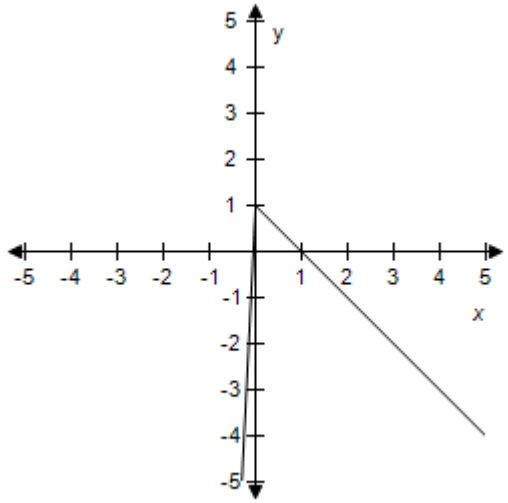


d.



e.

Section 2.4 - A Library of Parent Functions

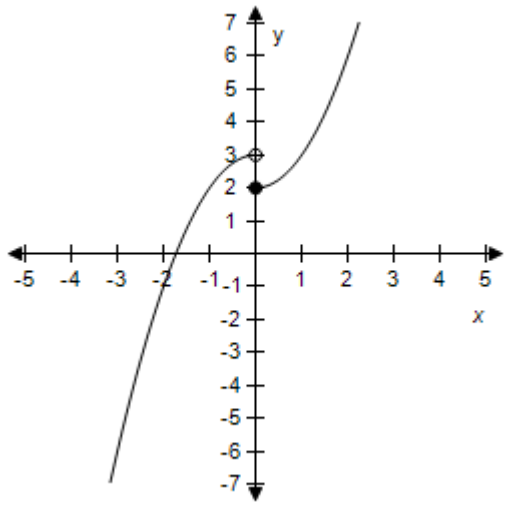


ANSWER: d
POINTS: 1
REFERENCES: 2.4.57
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 9/29/2014 7:05 AM

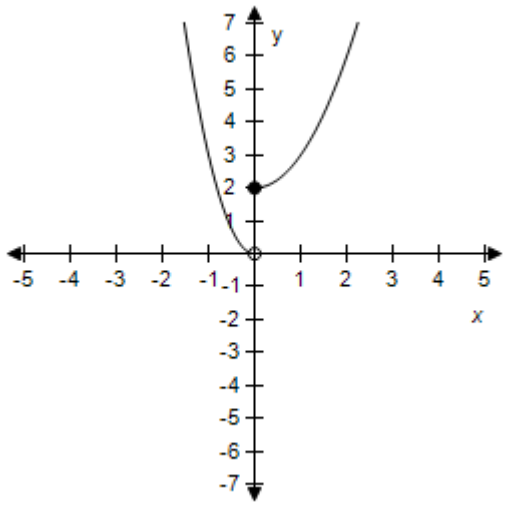
38. Select the graph of the function.

$$f(x)=\begin{cases}3-x^2 & x<0\\ x^2+2 & x\geq 0\end{cases}$$

a.



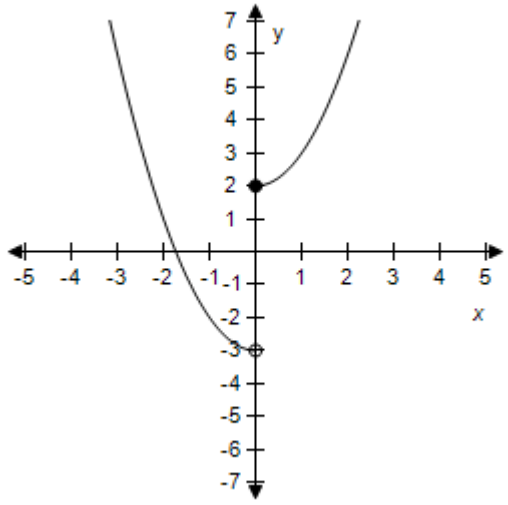
b.

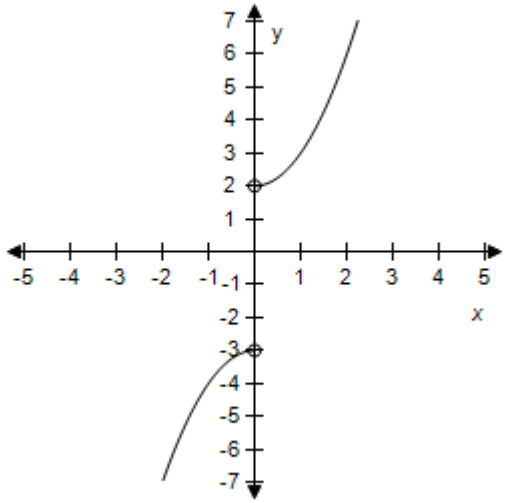


c.

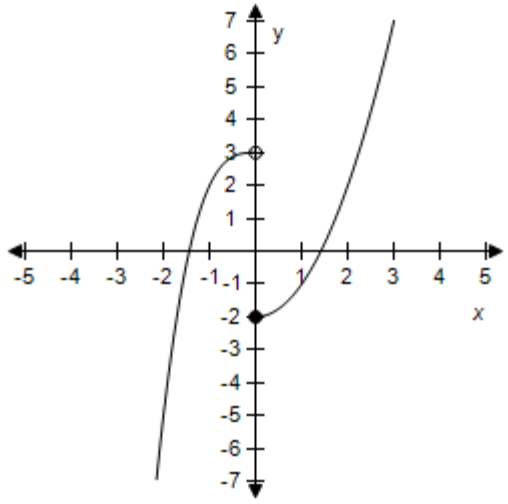
d.

Section 2.4 - A Library of Parent Functions





e.

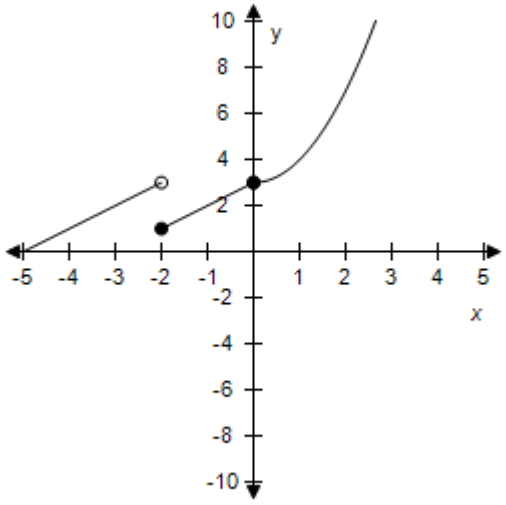


ANSWER: a
POINTS: 1
REFERENCES: 2.4.62
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 9/29/2014 7:18 AM

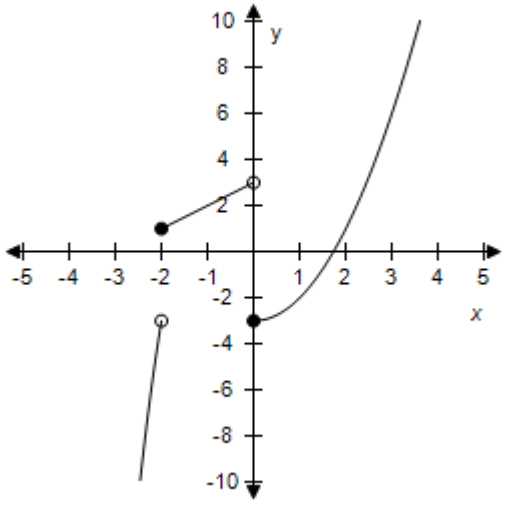
39. Select the graph of the function.

$$f(x)=\begin{cases}5-x^2 & x<-2\\ 3+x & -2\le x<0\\ x^2+3 & x\ge 0\end{cases}$$

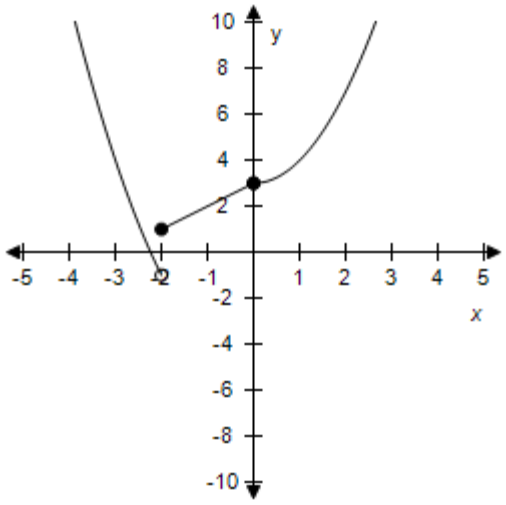
a. b.



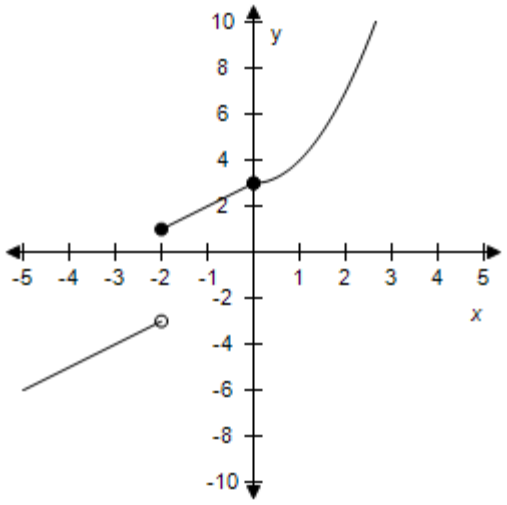
c.



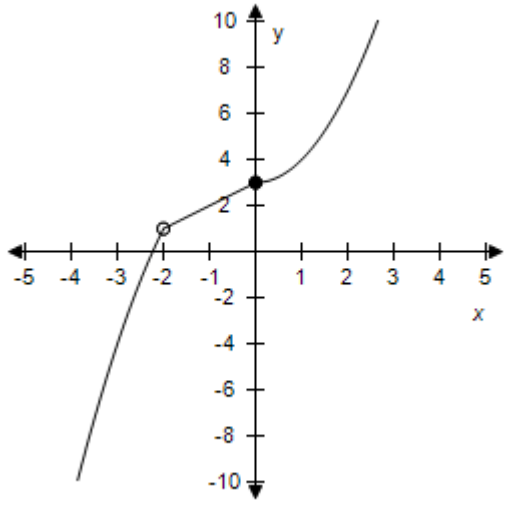
d.



e.



Section 2.4 - A Library of Parent Functions



ANSWER: e
POINTS: 1
REFERENCES: 2.4.63
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 9/29/2014 7:55 AM

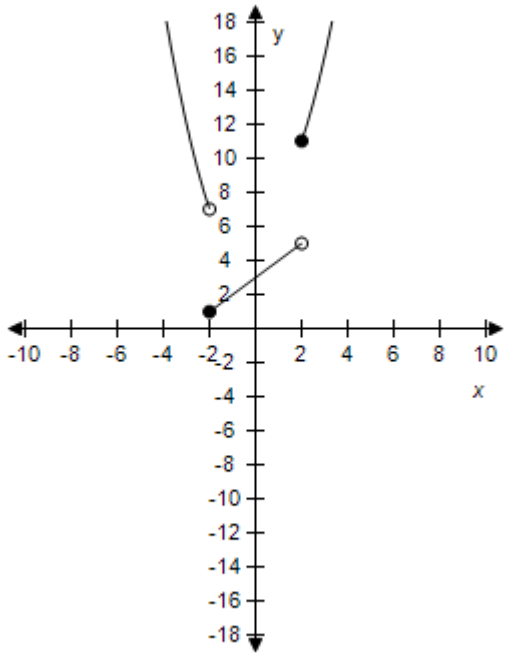
40. Select the graph of the function.

$$f(x)=\begin{cases} 3+x^2 & x<-2 \\ 3+x & -2\le x<2 \\ x^2+7 & x\ge 2 \end{cases}$$

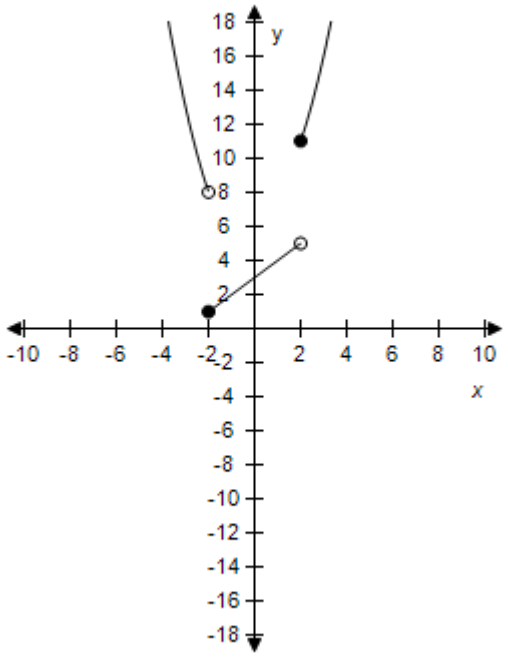
a.

b.

Section 2.4 - A Library of Parent Functions



c.



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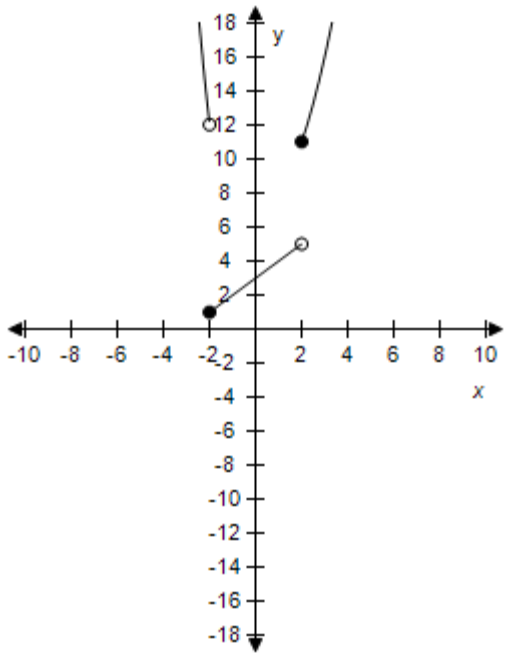
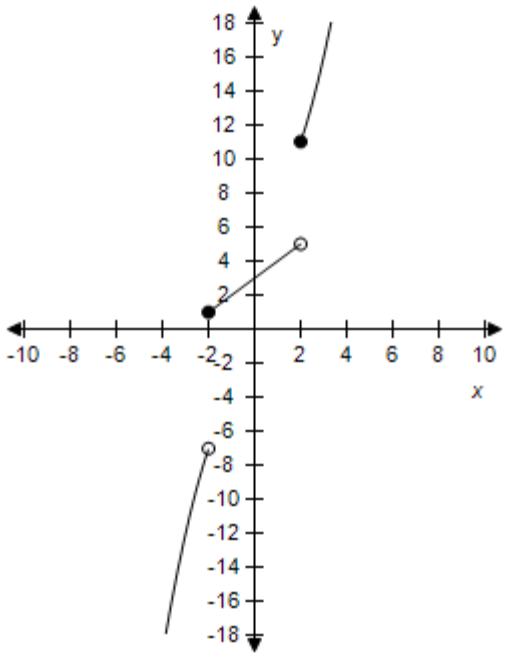
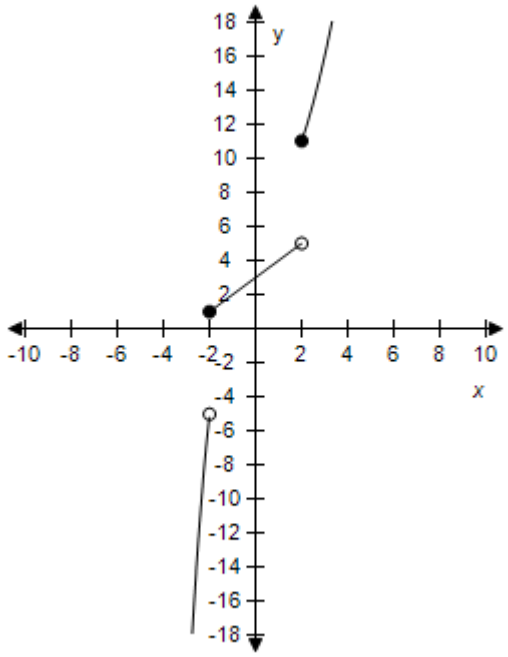


e.



Section 2.4 - A Library of Parent Functions



ANSWER: a
POINTS: 1
REFERENCES: 2.4.64
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 9/30/2014 8:03 AM

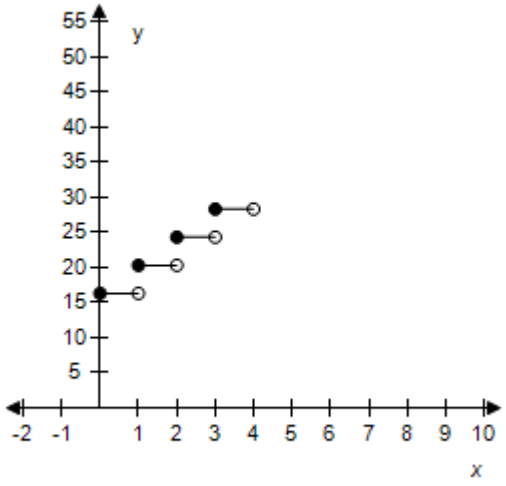
41. The cost of sending an overnight package from Los Angeles to Miami is $26.30 for a package weighing up to but not including 1 pound and $4.00 for each additional pound or portion of a pound. A model for the total cost C (in dollars) of sending the package is

$C = 26.30 + 4.00[[x]]$, $x > 0$, where x is the weight in pounds.

Select the graph of the model.

a. b.

c.



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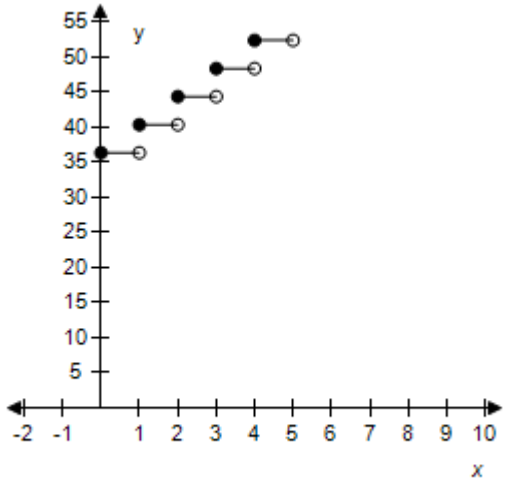
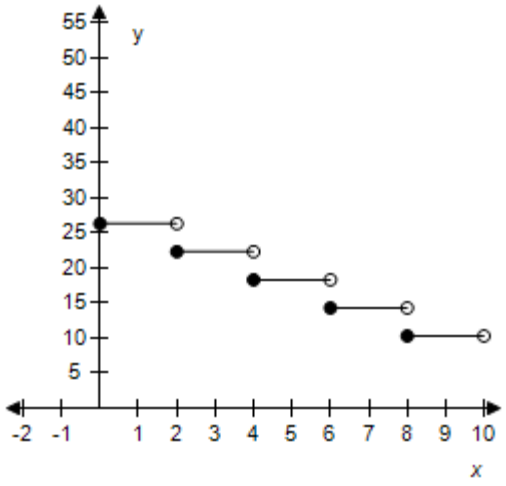
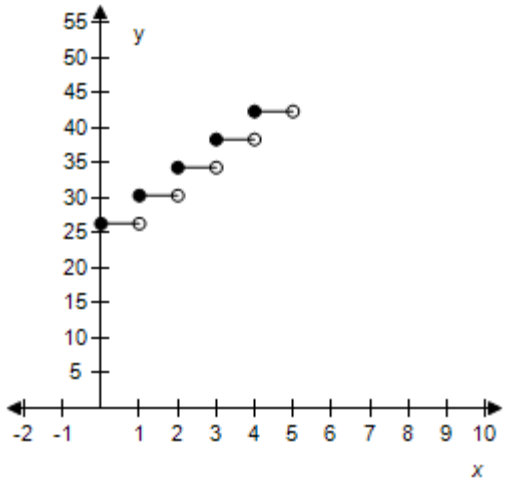
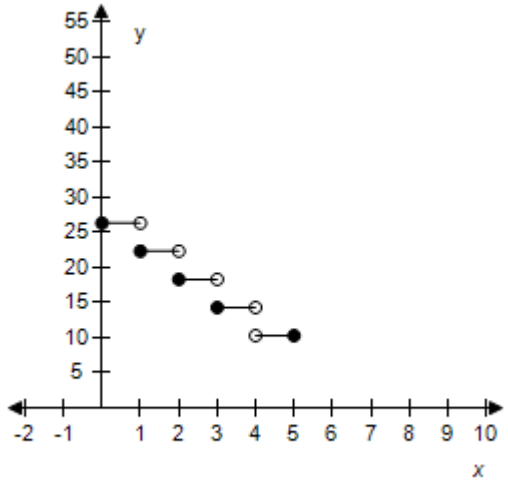


e.







ANSWER: d
POINTS: 1
REFERENCES: 2.4.69a
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:21 AM

42. The cost of sending an overnight package from Los Angeles to Miami is $26.40 for a package weighing up to but not including 1 pound and $3.25 for each additional pound or portion of a pound. A model for the total cost C (in dollars) of sending the package is

$C = 26.40 + 3.25[[x]]$, $x > 0$, where x is the weight in pounds.

Determine the cost of sending a package that weighs 5.25 pounds.

a. $45.65
b. $44.65
c. $43.65
d. $46.65
e. $42.65

ANSWER: e
POINTS: 1
REFERENCES: 2.4.69b
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:21 AM

43. The cost of sending an overnight package from Los Angeles to Miami is $25.00 for a package weighing up to but not including 1 pound and $3.50 for each additional pound or portion of a pound. Use the greatest integer

function to create a model for the cost C of overnight delivery of a package weighing x pounds, $x > 0$.

a. $C = 25.00 – 3.50[[x]]$, $x > 0$
b. $C = 25.00 + 3.50[[x]]$, $x > 0$
c. $C = -25.00 + 3.50[[x]]$, $x > 0$
d. $C = –25.00 – 3.50\ [[x]]$, $x > 0$
e. $C = 25.00[[x]] + 3.50$, $x > 0$

ANSWER: b
POINTS: 1
REFERENCES: 2.4.70a
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:23 AM

44. A mechanic is paid $13.00 per hour for regular time and time-and-a-half for overtime. The weekly wage function is given by

$$W(h) = \begin{cases} 13h & 0 < h \le 40 \\ 21(h-40)+520 & h > 40 \end{cases}$$

where h is the number of hours worked in a week.

Evaluate $W(30)$, $W(50)$.

a. $W(30) = 410$, $W(50) = 750$
b. $W(30) = 430$, $W(50) = 770$
c. $W(30) = 400$, $W(50) = 740$
d. $W(30) = 390$, $W(50) = 730$
e. $W(30) = 420$, $W(50) = 760$

ANSWER: d
POINTS: 1
REFERENCES: 2.4.71a
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 10/1/2014 3:48 AM

45. The table shows the monthly revenue y (in thousands of dollars) of a landscaping business for each month of the year 2008, with $x = 1$ representing January.

x	y
1	6.0
2	6.1
3	7.1
4	9.2
5	12.3

6	16.4
7	12.2
8	10.2
9	8.3
10	6.3
11	4.3
12	2.4

A mathematical model that represents these data is:

$$f(x) = \begin{cases} 0.505x^2 - 1.47x + 7.0 & 1 \le x \le 6 \\ -1.97x + 26.0 & 6 < x \le 12 \end{cases}$$

Find $f(1)$ and $f(12)$.

a. $f(1) = 2.860, f(12) = 6.79$
b. $f(1) = 3.360, f(12) = 7.04$
c. $f(1) = 6.035, f(12) = 2.36$
d. $f(1) = 2.860, f(12) = 6.54$
e. $f(1) = 2.860, f(12) = 6.29$

ANSWER: c
POINTS: 1
REFERENCES: 2.4.73b
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:25 AM

46. Write the linear function f such that it has the indicated values.
$f(-1) = -5, f(-9) = -6$

a. $y = -\frac{3}{4}x + \frac{17}{3}$
b. $y = 8x + 3$
c. $y = \frac{1}{8}x - \frac{41}{8}$
d. $y = \frac{1}{8}x - \frac{39}{8}$
e. $y = -\frac{4}{3}x - \frac{11}{3}$

ANSWER: d
POINTS: 1
REFERENCES: 2.4.12
QUESTION TYPE: Multiple Choice
HAS VARIABLES: True
DATE CREATED: 10/1/2014 4:54 AM

Section 2.4 - A Library of Parent Functions

DATE MODIFIED: 10/27/2014 2:22 AM

47. Evaluate the function for the indicated values.

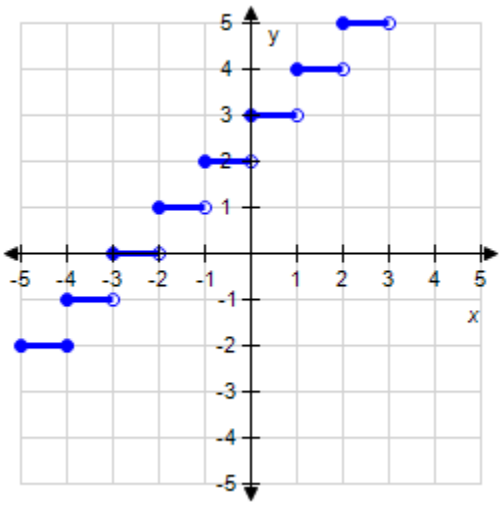
$f(x) = 5[[x + 3]] - 5$

(i) $f(3)$ (ii) $f(-63.30)$ (iii) $f\left(\frac{7}{8}\right)$

a. (i) 25 (ii) –305 (iii) 15
b. (i) 25 (ii) –305 (iii) 10
c. (i) 26 (ii) –310 (iii) 15
d. (i) 26 (ii) –310 (iii) 10
e. (i) 25 (ii) –310 (iii) 10

ANSWER: e
POINTS: 1
REFERENCES: 2.4.46
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:37 AM

48. Which function does the graph represent?



a. $g(x) = [[3x]]$
b. $g(x) = [[x+3]]$
c. $g(x) = 3[[x]]$
d. $g(x) = [[-4x]]$
e. $g(x) = [[x-3]]$

ANSWER: b
POINTS: 1
REFERENCES: 2.4.55

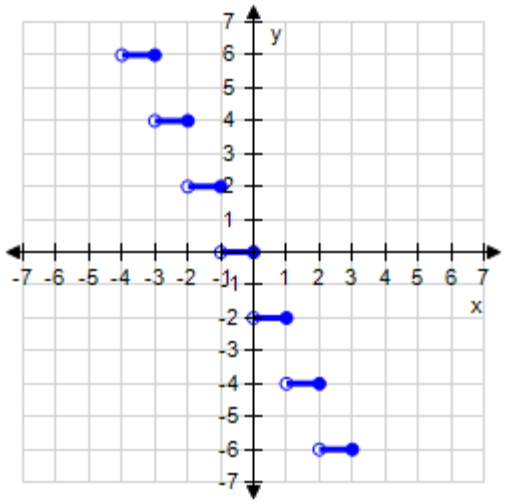
Section 2.4 - A Library of Parent Functions

QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/12/2015 10:42 AM

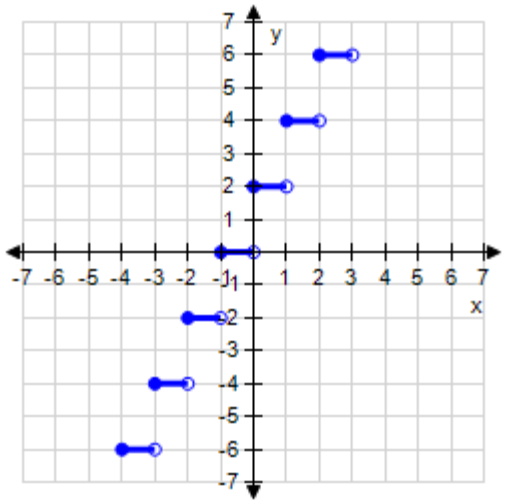
49. Which graph represents the function?

$g(x) = 2[[x]]$

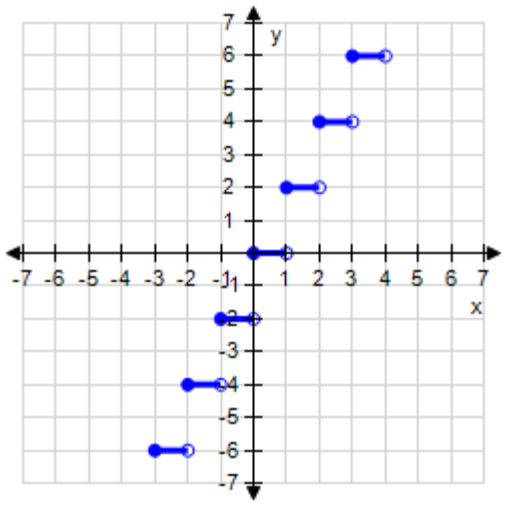
a.



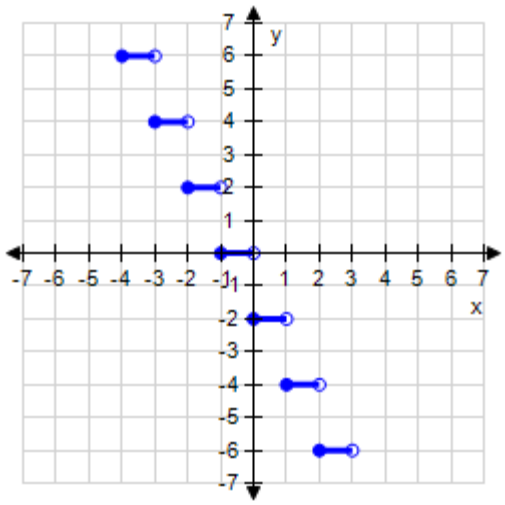
b.



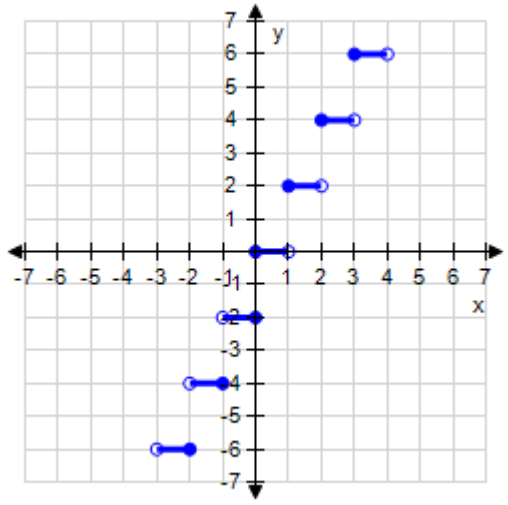
c.



d.



e.

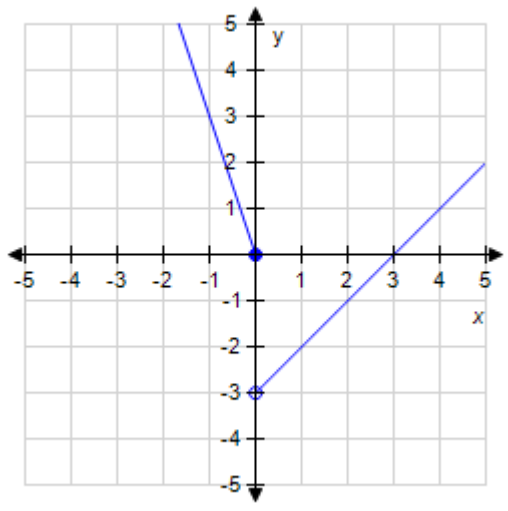


ANSWER: c
POINTS: 1
REFERENCES: 35
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 10/1/2014 7:29 AM
DATE MODIFIED: 5/15/2015 2:26 AM

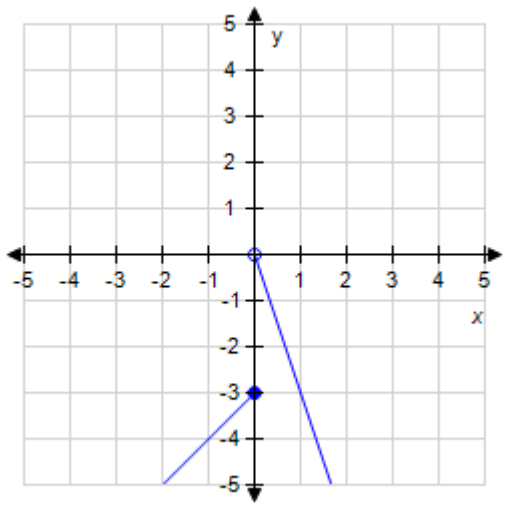
50. Which graph represents the function?

$$f(x) = \begin{cases} -3x, & x < 0 \\ x - 3, & x \geq 0 \end{cases}$$

a.

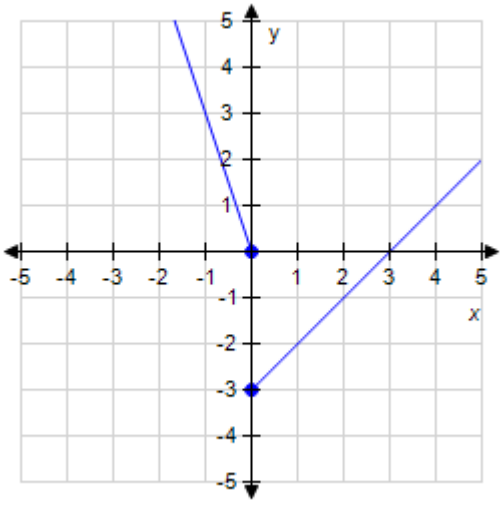


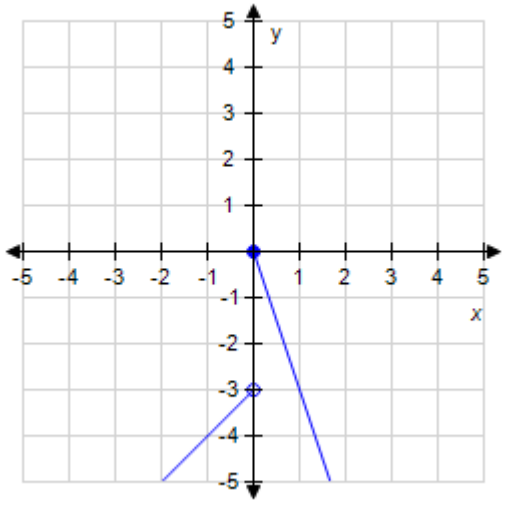
b.



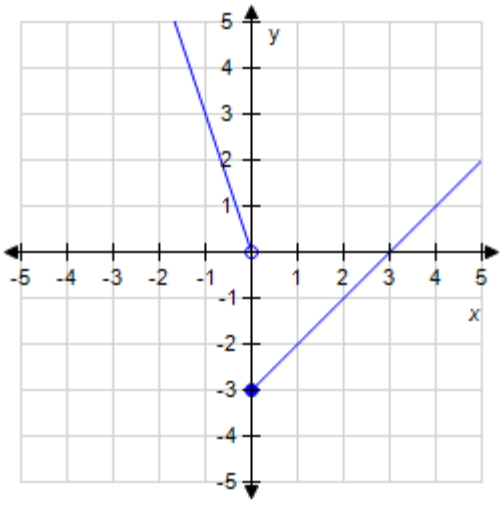
c.

d.





e.



ANSWER: e
POINTS: 1
REFERENCES: 2.4.58
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: True
DATE CREATED: 6/10/2014 4:18 PM
DATE MODIFIED: 5/15/2015 2:31 AM