

Test Bank for Finite Mathematics 7th Edition by Waner

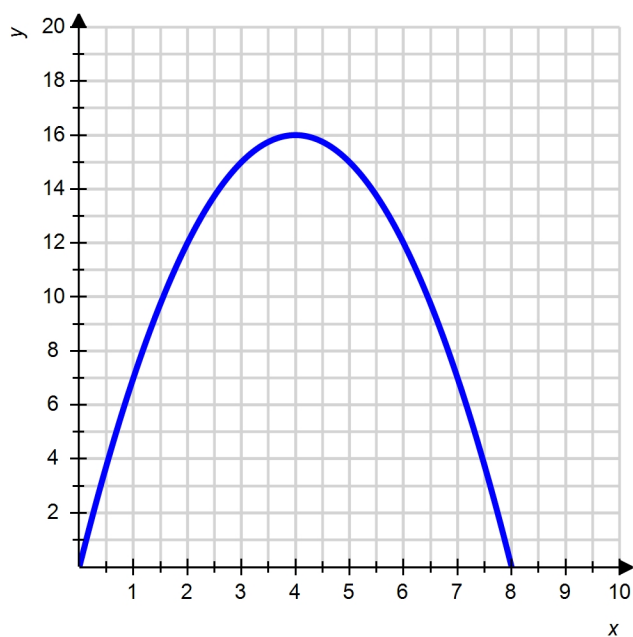
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Test Bank

1.2 Functions and Models

1. Use the graph of the function f to find $f(1)$.



- a. 10
- b. 7
- c. 5
- d. 3
- e. 6

ANSWER: b

POINTS: 1

QUESTION TYPE: Multiple Choice

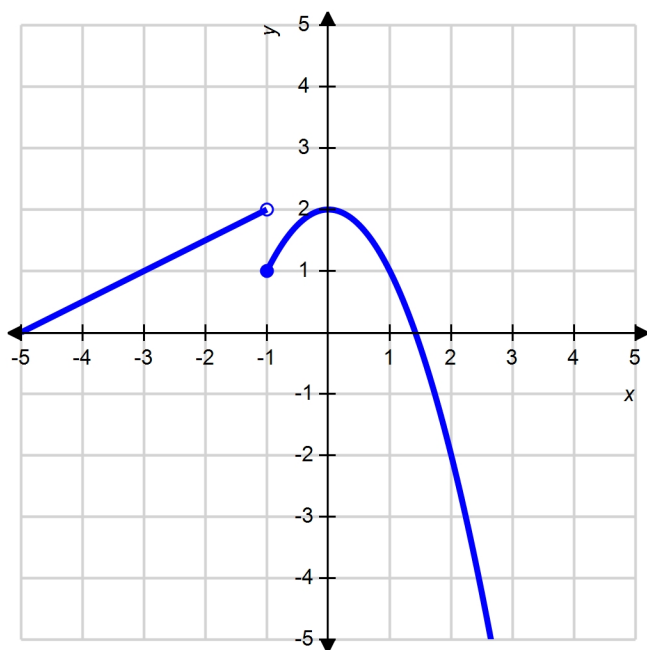
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1.2 Functions and Models

2. Use the graph of the function f to find $f(-1)$.



- a. 1
- b. -1
- c. 2
- d. 2.5
- e. 3

ANSWER: a

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: True

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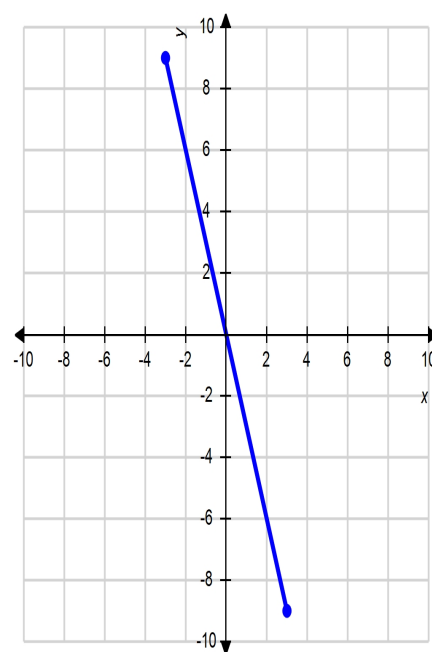
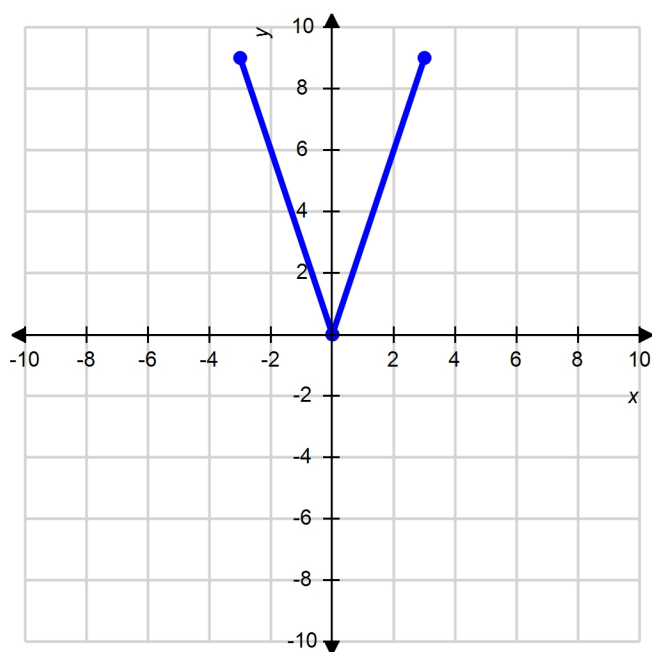
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3. Choose the graph of the function $f(x) = 3x$, $(-3 \leq x \leq 3)$ from the following:

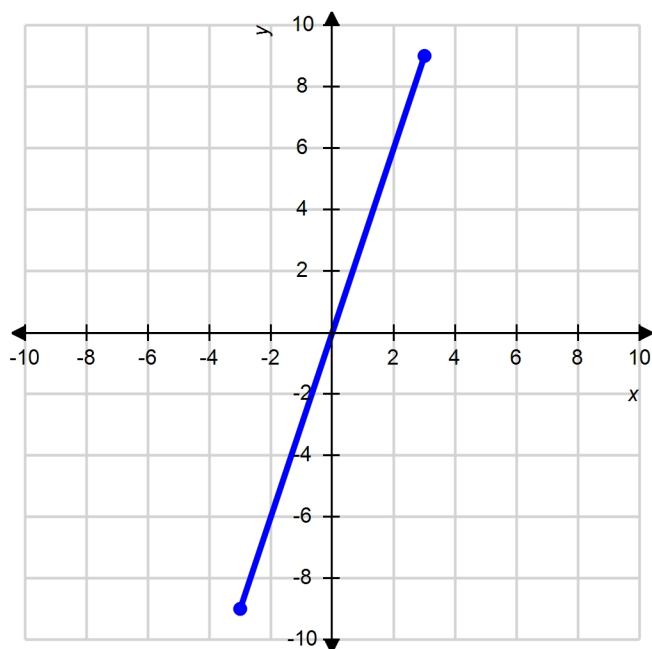
a.

b.

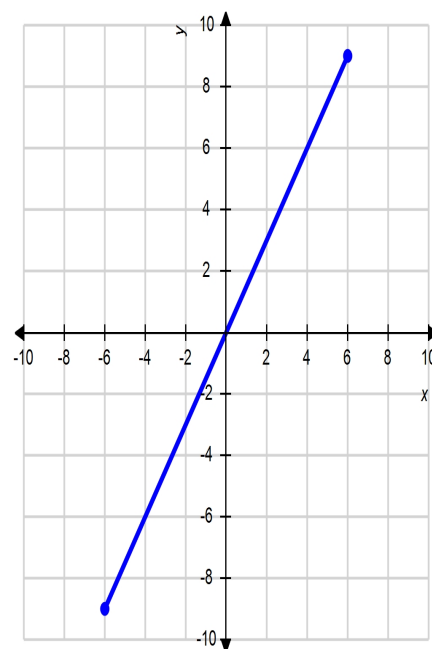
1.2 Functions and Models



c.



d.



ANSWER: c

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: True

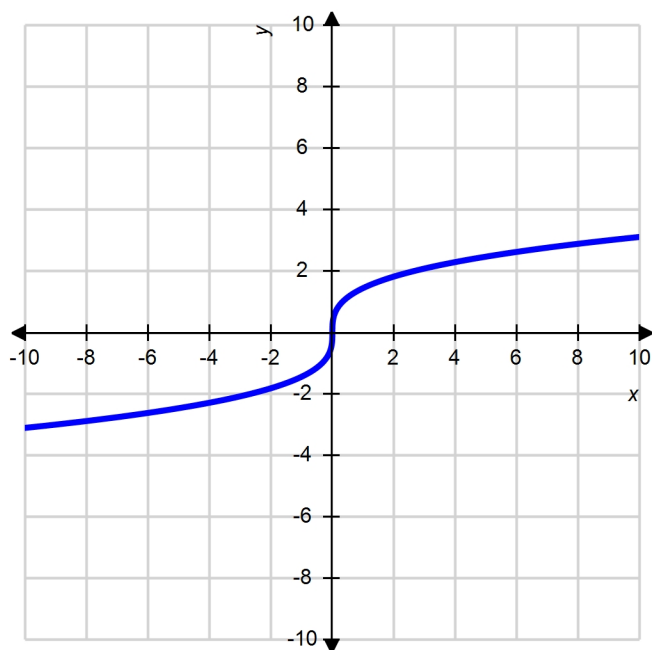
1.2 Functions and Models

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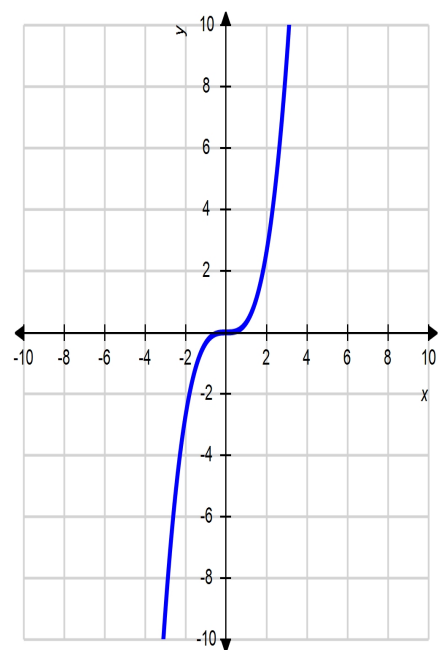
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4. Choose the graph of the function $f(x) = -\frac{x^3}{3}$, domain $(-\infty, \infty)$ from the following:

a.



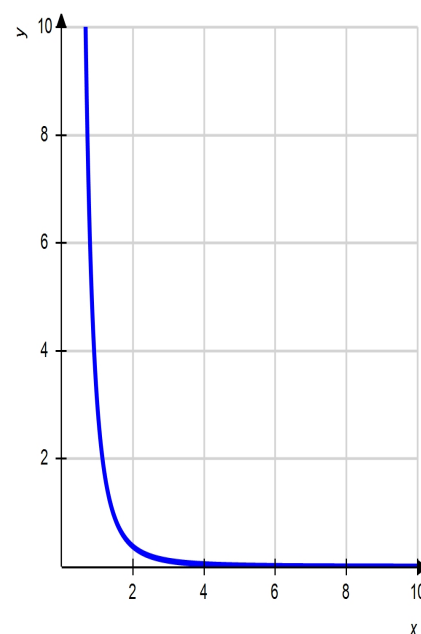
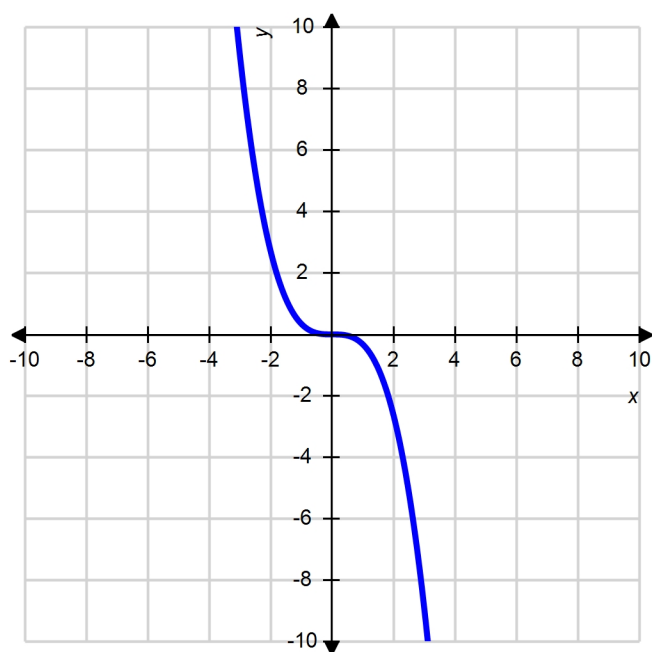
b.



c.

d.

1.2 Functions and Models



ANSWER: c

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: True

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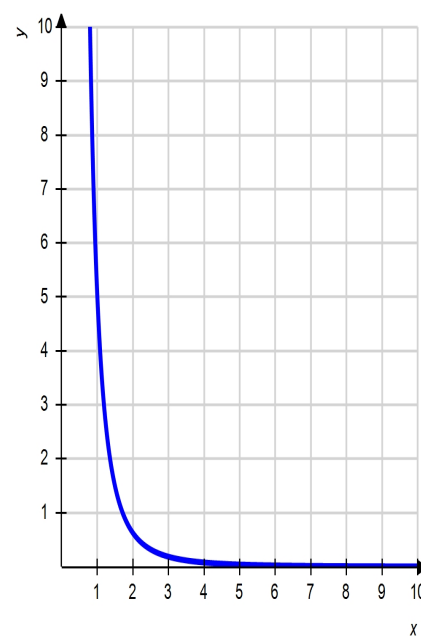
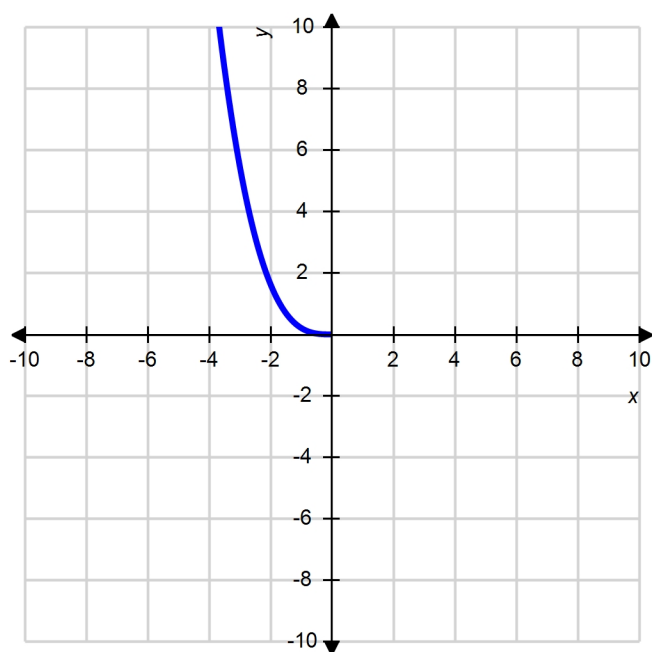
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5. Choose the graph of the function $f(x) = \frac{x^3}{5}$, domain $[0, \infty)$ from the following:

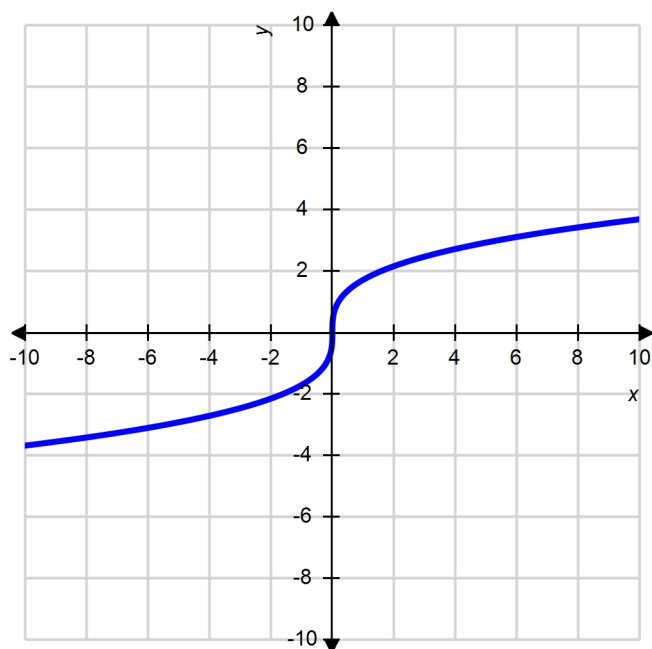
a.

b.

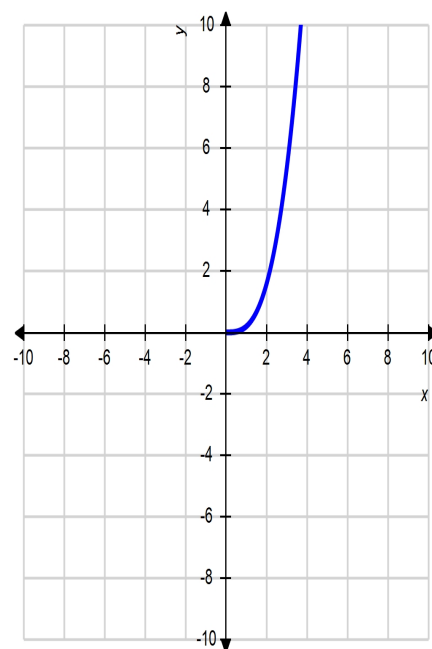
1.2 Functions and Models



c.



d.



ANSWER: d

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: True

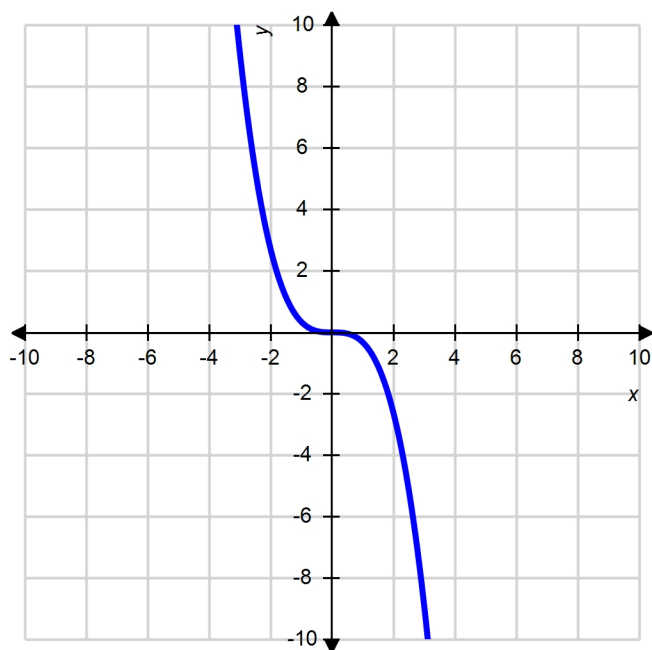
1.2 Functions and Models

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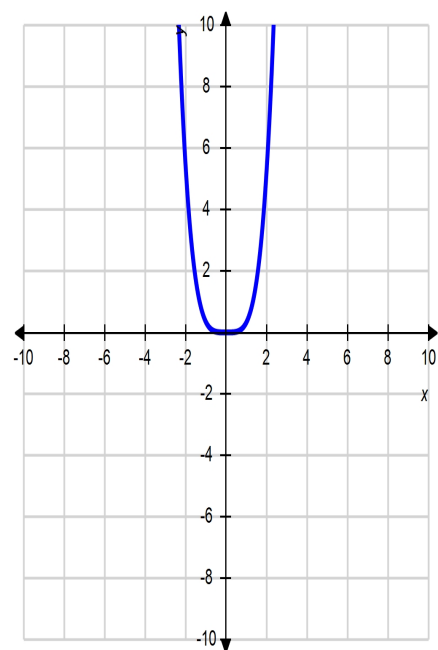
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6. Choose the graph of the function $f(x) = \frac{x^4}{3}$, domain $(-\infty, \infty)$ from the following:

a.



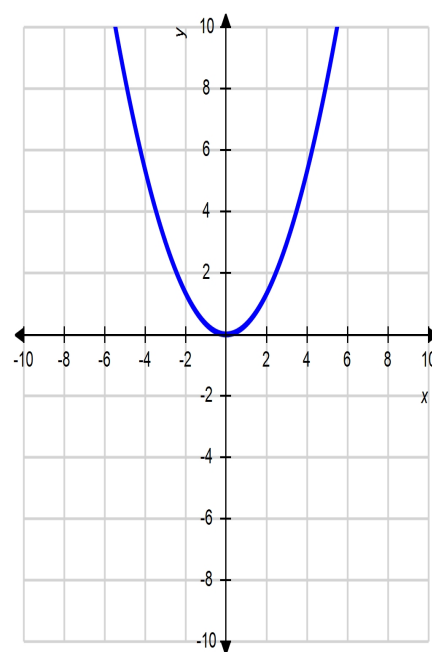
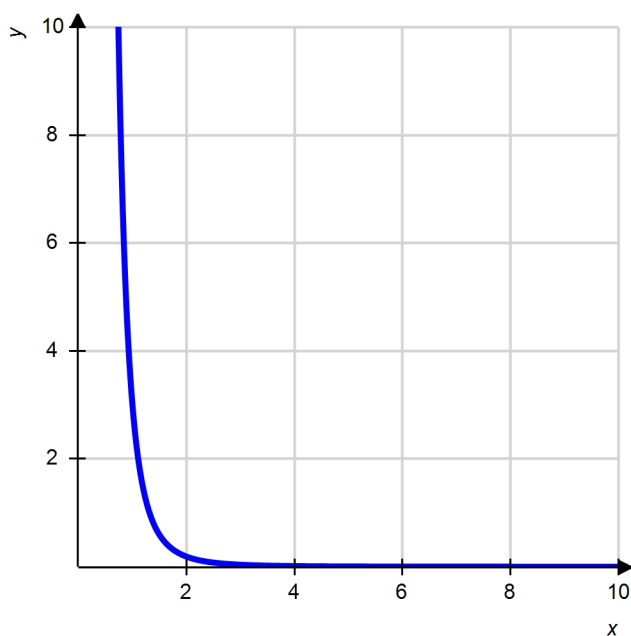
b.



c.

d.

1.2 Functions and Models



ANSWER: b

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: True

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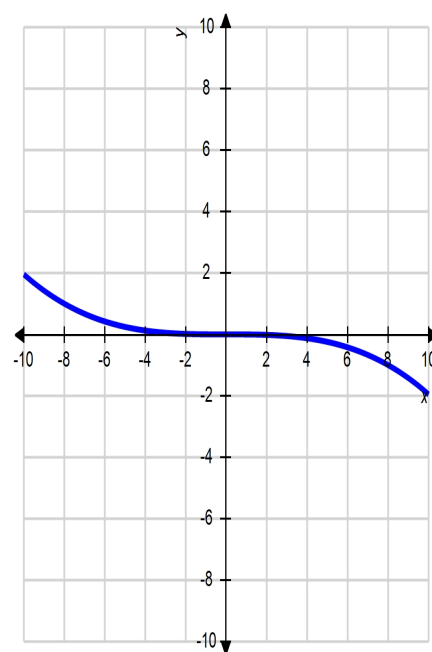
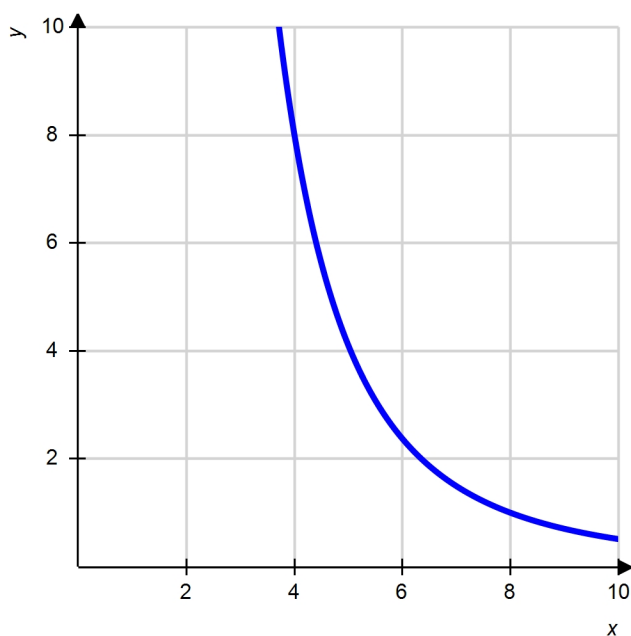
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7. Choose the graph of the function $f(x) = 8\sqrt[3]{x}$, domain $(-\infty, \infty)$ from the following:

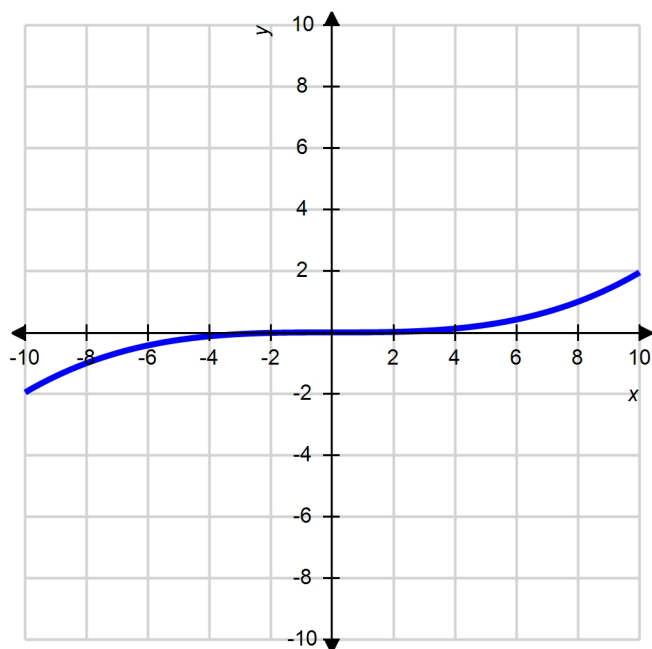
a.

b.

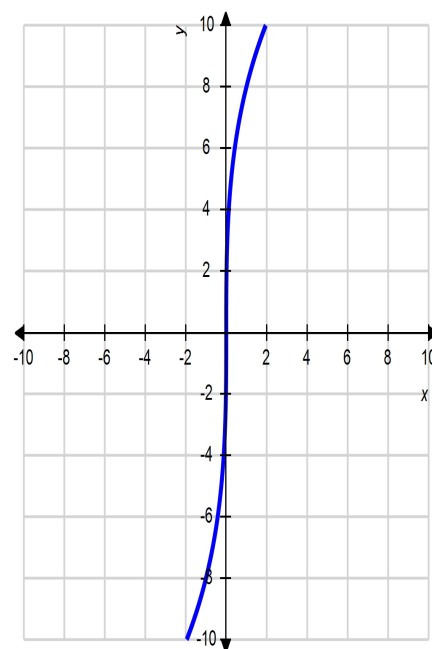
1.2 Functions and Models



c.



d.



ANSWER: d

POINTS: 1

QUESTION TYPE: Multiple Choice

1.2 Functions and Models

HAS VARIABLES: True

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8. Function f is $f(x) = \begin{cases} 6x & \text{if } 0 \leq x < 7 \\ 1 & \text{if } 7 \leq x < 14 \end{cases}$.

Find $f(12)$.

- a. 72
- b. 1
- c. 78
- d. 66
- e. 84

ANSWER: b

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: True

DATE CREATED: 2/10/2016 3:48 PM

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9. Function f is $f(x) = \begin{cases} -6 & \text{if } 0 \leq x < 9 \\ -6x & \text{if } 9 \leq x < 18 \end{cases}$.

Find $f(3)$.

- a. -18
- b. -6
- c. 18
- d. -18
- e. 9

ANSWER: b

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: True

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1.2 Functions and Models

10. Function f is $f(x) = \begin{cases} 7x & \text{if } 0 < x < 10 \\ x + 8 & \text{if } 10 \leq x < 20 \\ 7x & \text{if } 20 \leq x \leq 30 \end{cases}$.

Find $f(14)$.

- a. 22
- b. 20
- c. 29
- d. 32
- e. 14

ANSWER: a

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: True

DATE CREATED: 2/10/2016 3:48 PM

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11. Function f is $f(x) = \begin{cases} x^2 & \text{if } -16 < x \leq 0 \\ \sqrt{x} & \text{if } 0 < x \leq 41 \end{cases}$.

Find $f(36)$.

- a. 1296
- b. 6
- c. 7
- d. -6
- e. No solution

ANSWER: b

POINTS: 1

QUESTION TYPE: Multiple Choice

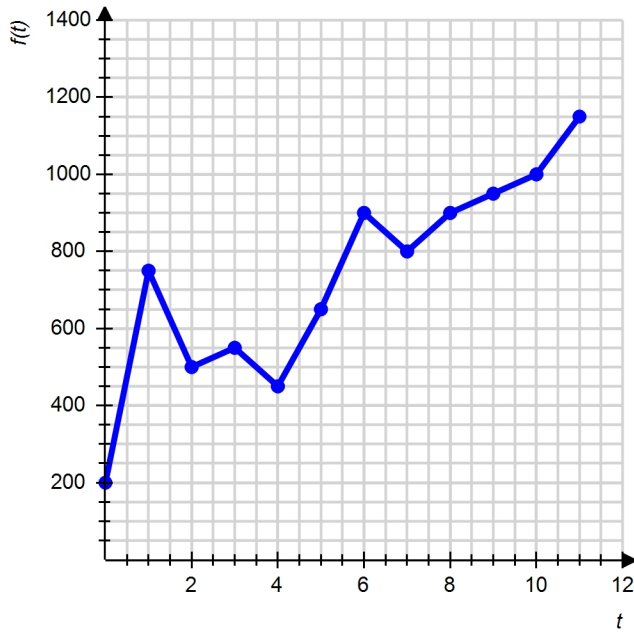
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1.2 Functions and Models

12. Graph shows the number of sports utility vehicles $f(t)$ sold in the United States. $f(t)$ represents sales in year t in thousands of vehicles. Find $f(10)$.



- a. 1,000,000
- b. 750,000
- c. 450,000
- d. 1,150,000
- e. 950,000

ANSWER: a

POINTS: 1

QUESTION TYPE: Multiple Choice

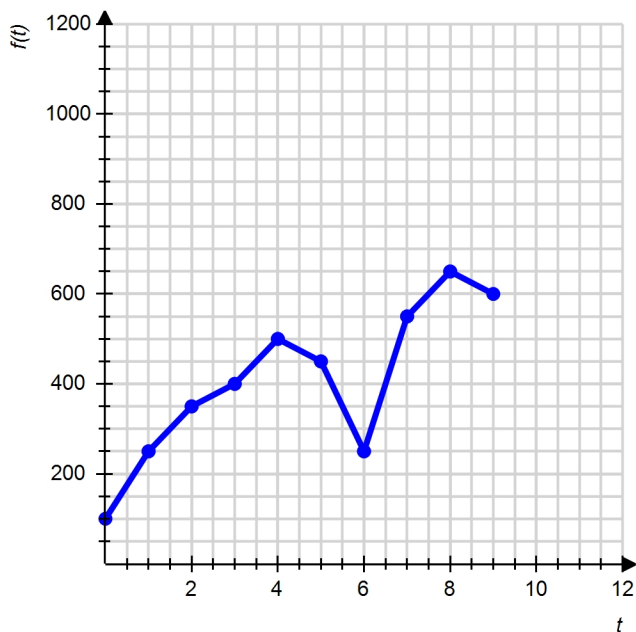
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1.2 Functions and Models

13. Graph shows the number of sports utility vehicles $f(t)$ sold in the United States. $f(t)$ represents sales in year t in thousands of vehicles. Find $f(4)$.



- a. 400,000
- b. 500,000
- c. 450,000
- d. 250,000
- e. 600,000

ANSWER: b

POINTS: 1

QUESTION TYPE: Multiple Choice

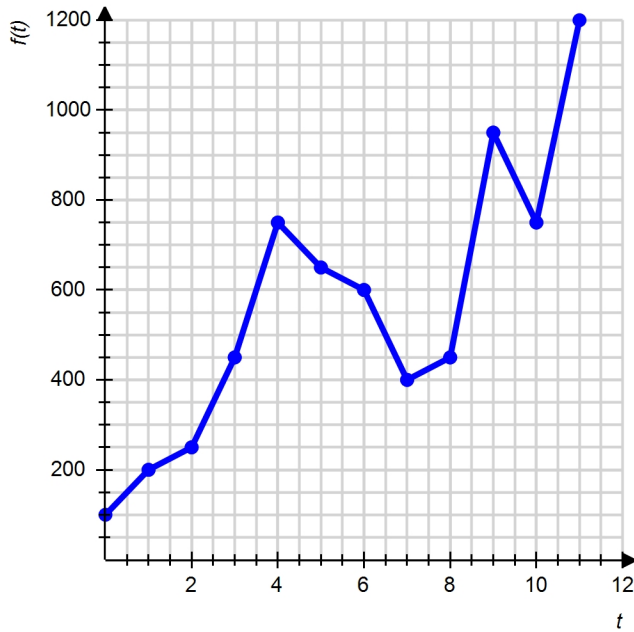
HAS VARIABLES: True

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1.2 Functions and Models

14. Graph shows the number of sports utility vehicles $f(t)$ sold in the United States. $f(t)$ represents sales in year t in thousands of vehicles. Use the graph to estimate the largest value of $f(t)$ for $(2 \leq t \leq 5)$.



- a. 950,000
- b. 650,000
- c. 1,200,000
- d. 750,000
- e. 600,000

ANSWER: d

POINTS: 1

QUESTION TYPE: Multiple Choice

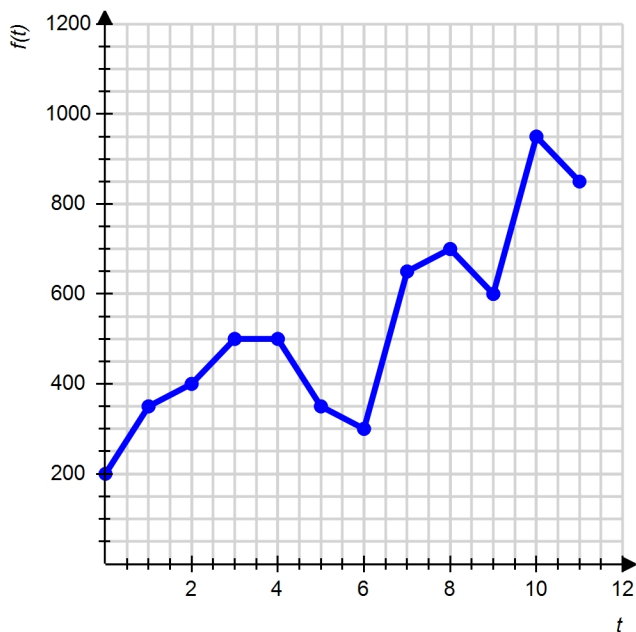
HAS VARIABLES: True

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1.2 Functions and Models

15. Graph shows the number of sports utility vehicles $f(x)$ sold in the United States. $f(x)$ represents sales in year t in thousands of vehicles. Use the graph to estimate the smallest value of $f(x)$ for $2 \leq t \leq 9$.



- a. 300,000
- b. 350,000
- c. 850,000
- d. 600,000
- e. 500,000

ANSWER: a

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: True

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1.2 Functions and Models

16. The following table shows the approximate value V of one Euro in U.S. dollars from its introduction in January 2000 to January 2004. ($t = 0$ represents January, 2000.)

t (Year)	0	2	4
V (Value in \$)	1.00	0.90	1.25

Which model would best fit the given data? (A, a, b, c, k, l , and m are constants.)

- a. Logarithmic: $V(t) = k \cdot \ln(l \cdot t)$
- b. Cubic: $a \cdot (t + b)^3 + c$
- c. Linear: $V(t) = m \cdot t + b$
- d. Quadratic: $V(t) = a \cdot t^2 + b \cdot t + c$
- e. Exponential: $V(t) = A^{b \cdot t}$

ANSWER: d

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: True

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17. The following table shows the approximate average household income in the U.S. in 1990, 2002, and 2003. ($t = 0$ represents 1990.)

t (Year)	0	12	13
H (Household Income in \$1000)	30	42	43

Which of the following kinds of models would best fit the given data? (A, a, b, c , and m are constants.)

- a. Exponential: $V(t) = A^{b \cdot t}$
- b. Logarithmic: $V(t) = A \cdot \ln(b \cdot t)$
- c. Linear: $V(t) = m \cdot t + b$
- d. Quadratic: $V(t) = a \cdot t^2 + b \cdot t + c$
- e. Power: $V(t) = a \cdot (t + b)^4 + c$

ANSWER: c

POINTS: 1

QUESTION TYPE: Multiple Choice

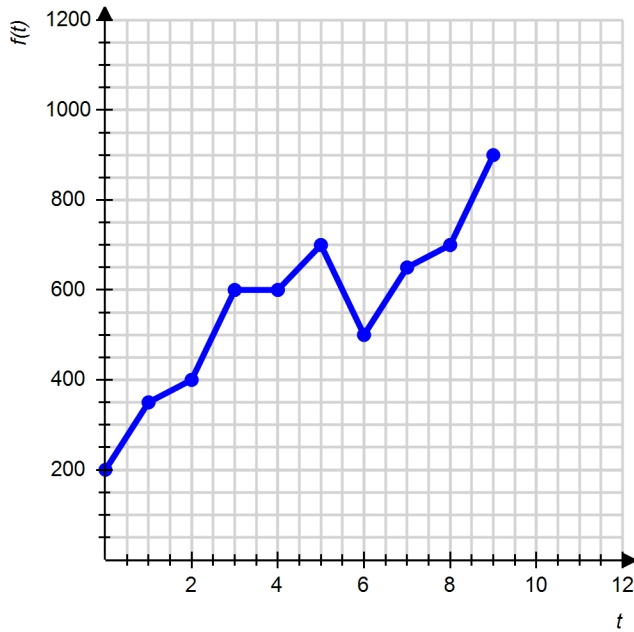
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1.2 Functions and Models

18. Graph shows the number of sports utility vehicles $f(t)$ sold in the United States. $f(t)$ represents sales in year t in thousands of vehicles. Use the graph to estimate the largest value of $f(t)$ for $(0 \leq t \leq 5)$.



Please enter your answer as a number without the units.

ANSWER: 700,000

POINTS: 1

QUESTION TYPE: Numeric Response

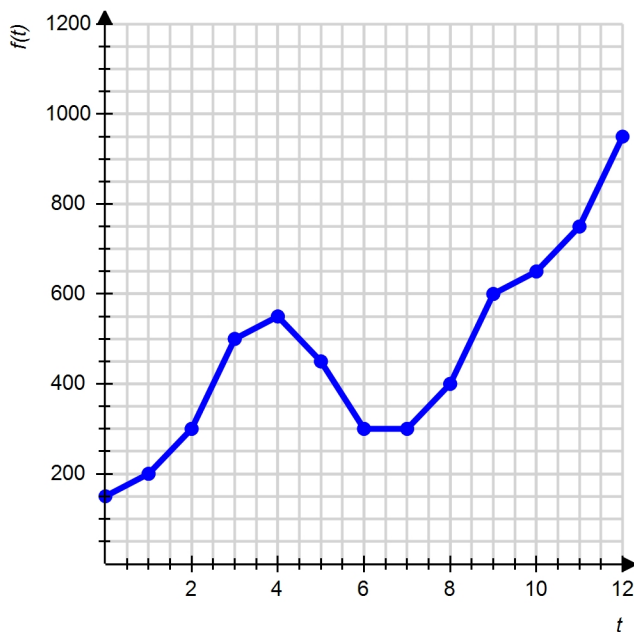
HAS VARIABLES: True

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1.2 Functions and Models

19. Graph shows the number of sports utility vehicles $f(t)$ sold in the United States. $f(t)$ represents sales in year t in thousands of vehicles. Use the graph to estimate the smallest value of $f(t)$ for $(3 \leq t \leq 9)$.



Please enter your answer as a number without the units.

ANSWER: 300,000

POINTS: 1

QUESTION TYPE: Numeric Response

HAS VARIABLES: True

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Match each function with the corresponding graph.

a. $f(x) = 3x, (-3 \leq x \leq 3)$

b. $f(x) = -3x, (-3 \leq x \leq 3)$

c. $f(x) = |3x|, (-3 \leq x \leq 3)$

QUESTION TYPE: Matching

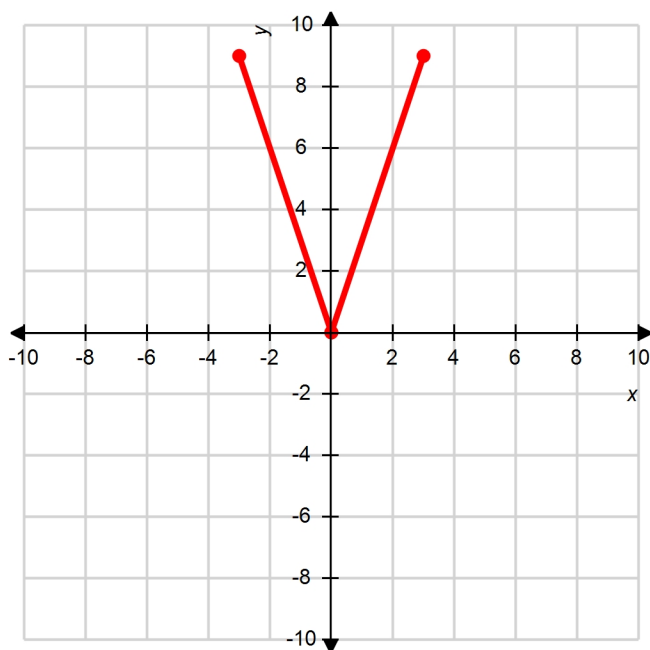
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1.2 Functions and Models

20.

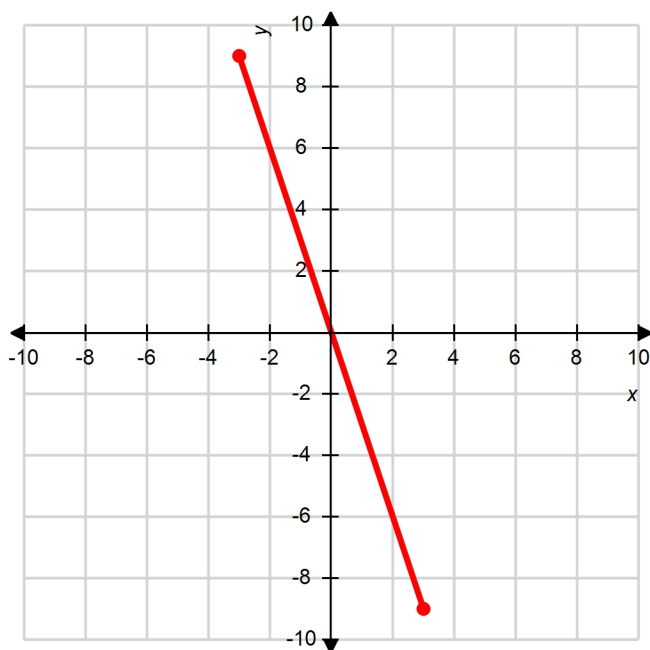


ANSWER: c

POINTS: 1

1.2 Functions and Models

21.

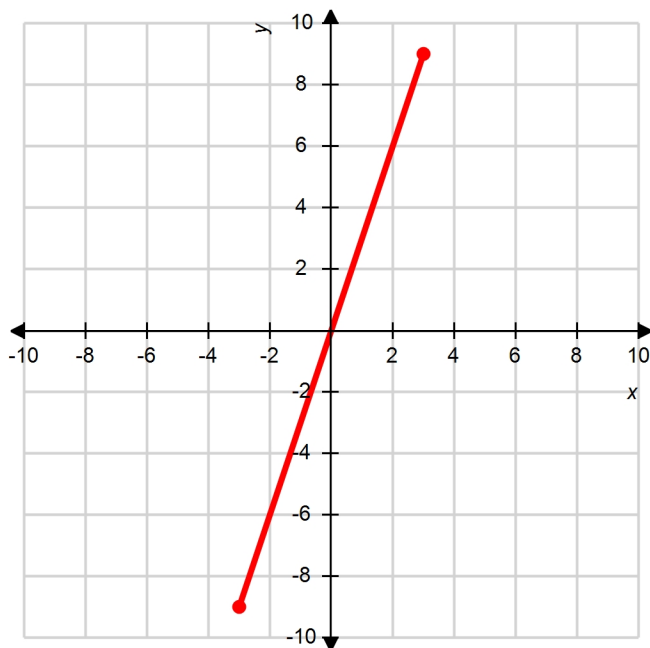


ANSWER: b

POINTS: 1

1.2 Functions and Models

22.



ANSWER: a

POINTS: 1