

Tables

- 11 A table of values for the exponential function f is shown below.

x	$f(x)$
1	140,000
2	143,850
3	147,806
4	151,871
5	156,047

Which situation could describe this function?

- A The value of a house increases by approximately $2\frac{3}{4}\%$ per year.
- B The value of a house increases by \$3,850 per year.
- C The value of a house decreases by approximately $2\frac{3}{4}\%$ per year.
- D The value of a house decreases by \$3,850 per year.

Tables

- 42 The dishwasher at a restaurant is loaded with the same number of dishes every time it is used. The table below shows the total number of dishes washed as a function of the number of times the dishwasher is used.

Restaurant Dishwasher

Number of Times Used	Total Number of Dishes Washed
2	52
4	104
6	156
8	208

Based on the data in the table, what is the total number of dishes that will have been washed when the dishwasher is used 9 times?

Record your answer and fill in the bubbles on your answer document.

Tables

- 8 Which table shows the same relationship as $y = -x^2 + 3x$?

F

x	-2	-1	0	1	2
y	-2	-2	0	4	10

G

x	-2	-1	0	1	2
y	-2	-1	0	1	2

H

x	-2	-1	0	1	2
y	-10	-4	0	2	2

J

x	-2	-1	0	1	2
y	-10	-4	0	4	10

Tables

- 38 The table shows the playing time in minutes of high-definition videos and the file size of these videos in megabytes (MB).

Videos

Playing Time, x (min)	File Size, y (MB)
0.5	60
1.5	180
2	240
4.5	540
5	600

What does the slope of the graph of this situation represent?

- F The increase in the file size of the video per minute of playing time
G The file size of each video
H The playing time of each video

Tables

- 39 The table represents some points on the graph of linear function h .

x	$h(x)$
2	490
5	295
6	230
8	100

Which situation can be modeled by this function?

- A The cost in dollars of buying x items that cost \$245 each
- B The number of miles an airplane had traveled after flying 555 miles per hour for x hours
- C The remaining number of miles on a 620-mile trip after traveling 65 miles per hour for x hours
- D The amount owed on a \$555 loan after paying \$65 per month for x months

Tables

- 54 The table shows the population, p , of mice in a field at the end of m months.

Mouse Population

Time, m (months)	Population, p
0	6
1	12
2	24
3	48
4	96

Based on the data in the table, what will be the population of mice in the field at the end of 8 months?

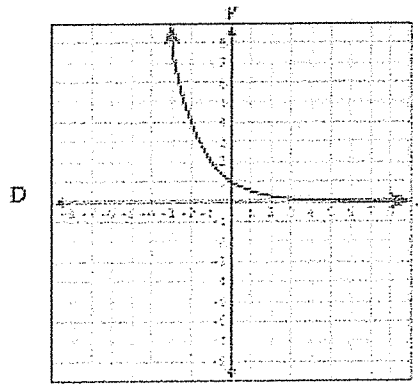
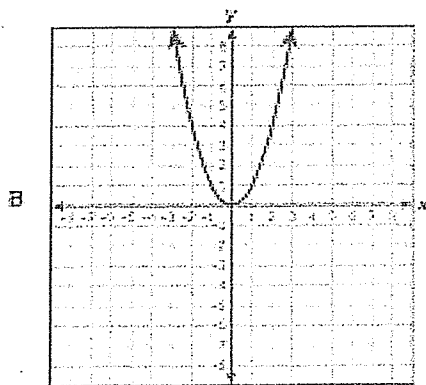
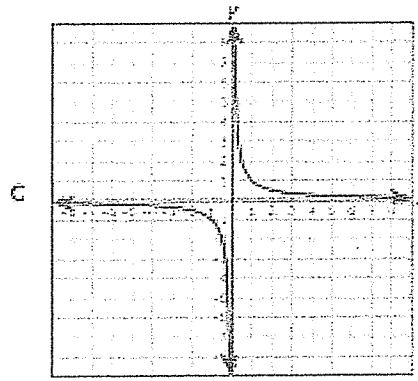
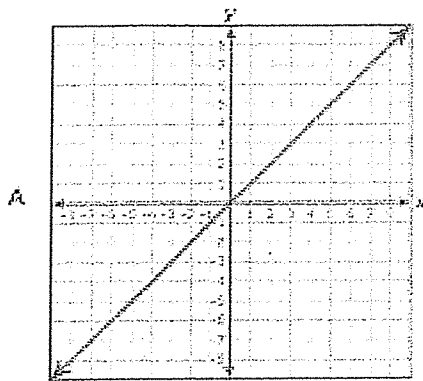
- F 192
- G 3,072
- H 1,536
- J 256

Tables

51. Function k has a parent function. The table shows some ordered pairs that belong to k .

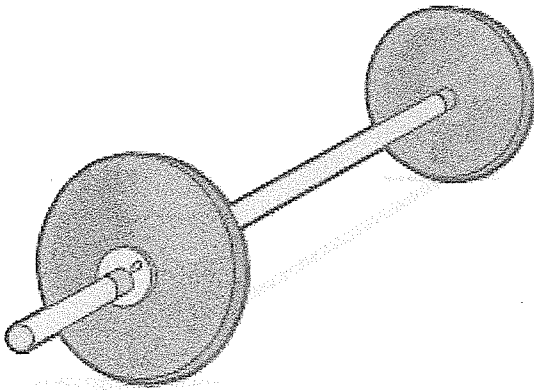
x	$k(x)$
-4	20
-3	13
-1	5
1	5
2	8

Which graph shows the parent function of k ?



Tables

- 47 A weightlifter is adding plates of equal weight to a bar. The table below shows the total weight, including the bar, that he will lift depending on the total number of plates on the bar.



Number of Plates	Total Weight (lb)
2	115
4	185
6	255
8	325

Based on this information, which statement is true?

- A The bar weighs 35 lb without any plates.
- B The bar weighs 70 lb without any plates.
- C The bar weighs 45 lb without any plates.
- D The bar weighs 25 lb without any plates.

Tables

- 28 The number of possible pairings of 2 objects selected from a set of x objects can be modeled by $p(x) = 0.5x(x - 1)$. Which table shows this quadratic relationship?

Objects

Number of Objects, x	Possible Pairings, $p(x)$
2	1
4	6
9	28
13	78

Objects

Number of Objects, x	Possible Pairings, $p(x)$
2	1
3	3
7	22
13	78

Objects

Number of Objects, x	Possible Pairings, $p(x)$
2	1
5	10
8	28
12	66

Objects

Number of Objects, x	Possible Pairings, $p(x)$
2	1
4	6
10	44
12	66

Tables

- 36 The table represents some points on the graph of linear function g .

x	$g(x)$
-4	13
-2	10.5
2	5.5
8	-2

The graph of g was translated down 10 units to create the graph of function h . Which statement comparing the graphs of g and h is true?

- F The x -intercept of the graph of g is 10 units to the right of the x -intercept of the graph of h .
- G The graph of g is steeper than the graph of h .
- H The y -intercept of the graph of g is 10 units above the y -intercept of the graph of h .
- J The graph of g is less steep than the graph of h .

Tables

- 36 The table shows the functions used to determine the number of points earned every month by regular and elite members of a dining club who spend d dollars that month at participating restaurants.

Dining Club Points

Member Status	Points Earned
Regular	$r = 5d + 100$
Elite	$e = 8d + 200$

Which statement describes the difference in these situations?

- F Regular members earn 3 more points for every dollar spent and are automatically awarded 100 more points per month than elite members.
- G Regular members earn 3 more points for every dollar spent and are automatically awarded 200 more points per month than elite members.
- H Elite members earn 3 more points for every dollar spent and are automatically awarded 100 more points per month than regular members.
- J Elite members earn 3 more points for every dollar spent and are automatically awarded 200 more points per month than regular members.

Tables

- 3 Which table shows the same rate of change of y with respect to x as $y = 4 - \frac{5}{8}x$?

A

x	y
-3	-12
-1	-4
2	8
5	20

C

x	y
-4	6.5
2	2.75
4	1.5
8	-1

B

x	y
-4	10.4
2	0.8
4	-2.4
8	-8.8

D

x	y
-3	12
-1	4
2	-8
5	-20

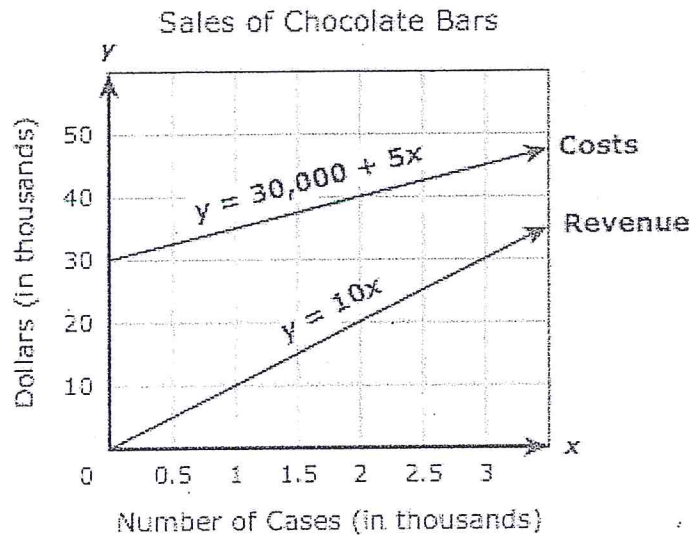
Systems

- 45 The owner of a clothing store buys T-shirts for c dollars each and sells them for p dollars each. Last month she bought 600 T-shirts and sold 500 of them and made a profit of \$2,800. This month she bought 400 T-shirts and sold them all and made a profit of \$2,400. Which system of equations can be used to determine the values of c and p ?

- A $500p - 600c = 2,800$
 $400p - 400c = 2,400$
- B $600p - 500c = 2,800$
 $400p - 400c = 2,400$
- C $500p - 600c = 2,800$
 $400p - c = 2,400$
- D $600p - 500c = 2,800$
 $400p - c = 2,400$

Systems

- 49 A candy company sells cases of chocolate bars. The company has fixed costs of \$30,000, and each case of chocolate bars costs an additional \$5 to make. The company sells each case for \$10. The graph of a system of linear equations representing this company's costs and revenue for manufacturing and selling x cases of chocolate bars is shown below.



How many cases of chocolate bars will this company need to sell in order for costs and revenue to be equal?

- A 3,500
B 6,000
C 35,000
D 60,000

Systems

52 What is the solution to the system of equations below?

$$\begin{aligned}4x - 7y &= -2 \\12x - 21y &= -42\end{aligned}$$

F The ordered pair $(-\frac{1}{2}, 0)$ is the solution.

G The ordered pair $(0, \frac{2}{7})$ is the solution.

H There are an infinite number of solutions.

J There is no solution.

35 What is the value of x in the solution to this system of equations?

$$\begin{aligned}3x &= 2y + 14 \\y &= -6x + 18\end{aligned}$$

A $\frac{10}{3}$

B -2

C 2

D $-\frac{10}{3}$

Systems

- 6 One wall inside a shoe store is used to display walking shoes and running shoes. There are 135 pairs of shoes in this display. There are 1.5 times as many pairs of walking shoes as there are running shoes on display. How many pairs of walking shoes and running shoes are on display?

- F 90 pairs of walking shoes and 45 pairs of running shoes
- G 54 pairs of walking shoes and 81 pairs of running shoes
- H 45 pairs of walking shoes and 90 pairs of running shoes
- J 81 pairs of walking shoes and 54 pairs of running shoes

- 24 A new spiral notebook contains 30 more sheets of paper than a new memo book. The total number of sheets of paper in 3 new spiral notebooks and 5 new memo books is 810. Which system of equations can be used to find s , the number of sheets of paper in one new spiral notebook, and m , the number of sheets of paper in one new memo book?

F $s - m = 30$
 $3s + 5m = 810$

G $s + m = 30$
 $3s + 5m = 810$

H $s - m = 30$
 $5s + 3m = 810$

J $s + m = 30$
 $5s + 3m = 810$