1

1

The function f is defined by $f(x)=9x-16$. What is the value of $f(3)$?

A) -39

B) -4

C) 11

D) 27

2

2

The function g is defined by $g(x) = 4x - 2$. What is the value of $g(-3)$?

A) $-\frac{1}{4}$

B) $-\frac{5}{4}$

C) -10

D) -14

3

2

The function k is defined by $k(x) = \frac{3x-5}{2x+3}$. What is the value of $k(1)$?

A) $\frac{5}{2}$

B) $\frac{8}{5}$

C) $-\frac{2}{5}$

D) $-\frac{3}{2}$

4

2

$$f(x) = \frac{3}{2}x + b$$

In the function above, b is a constant. If $f(6) = 7$, what is the value of $f(-2)$?

A) -5

B) -2

C) 1

D) 7

5

3

$$f(x) = 2(x-1) + 2$$

For the function f defined above, what is the value of $f(1)$?

A) 3

B) 2

C) 0

D) -1

6

3

The function f is defined by $f(x)=3^x$. What is the value of $f(2)$?

A)5

B)6

C)8

D)9

7

9

$$h(x) = 2^x$$

The function h is defined above. What is $h(5) - h(3)$?

A) 2

B) 4

C) 24

D) 28

8

4

If $f(x) = 4 - x$ and $g(x) = 2x^2 - 1$, what is the value of $f(1) - g(1)$?

9

4

If $f(x) = -2x + 5$, what is $f(-3x)$ equal to?

A) $-6x - 5$

B) $6x + 5$

C) $6x - 5$

D) $6x^2 - 15x$

10

5

If $f(x) = \dfrac{x^2 - 6x + 3}{x - 1}$, what is $f(-1)$?

A) -5

B) -2

C) 2

D) 5

11

5

$$h(x) = -4(x-1)+2$$

The function h is defined above. For what value of x is $h(x) = -2$?

A) -2

B) -1

C) 1

D) 2

12

8

The function g is defined by $g(x) = 4x^2 - 3$. For what positive value of x is $g(x)=13$?

A) 2

B) 4

C) $\dfrac{\sqrt{10}}{4}$

D) $\dfrac{\sqrt{10}}{2}$

13

10

A function f satisfies $f(2) = 3$ and $f(3) = 5$. A function g satisfies $g(3) = 2$ and $g(5) = 6$. What is the value of $f(g(3))$?

A) 2
B) 3
C) 5
D) 6

14

15

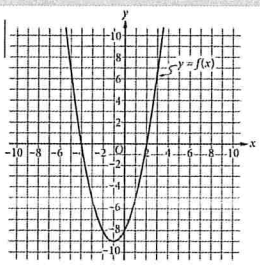
$g(x) = 2x - 1$
$h(x) = 1 - g(x)$

The functions g and h are defined above. What is the value of $h(0)$?

A) −2
B) 0
C) 1
D) 2

15

4

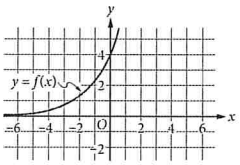


A) -9
B) -8
C) -4
D) 2

The graph of f is shown. According to the graph, what is the value of $f(0)$?

16

7

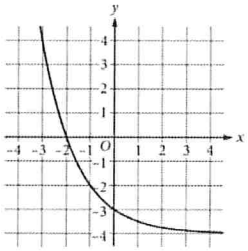


The graph of $y = f(x)$ is shown in the xy-plane. What is the value of $f(0)$?

A) 0
B) 2
C) 3
D) 4

17

15

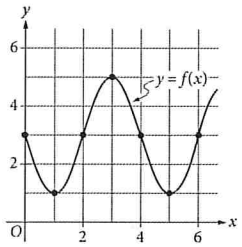


A) −4
B) −3
C) −2
D) −1

The graph of the exponential function f is shown. For what value of x is $f(x)=0$?

18

16

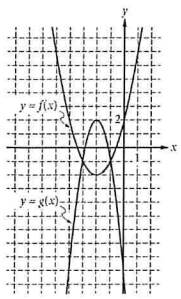


The graph of the function f is shown. What is the value of $f(0)$?

M214 4
functions f(x)

19

16

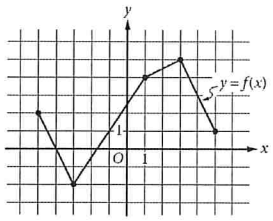


Graphs of the functions f and g are shown in the xy-plane above. For which of the following values of x does $f(x) + g(x) = 0$?

A) -3
B) -2
C) -1
D) 0

20

17

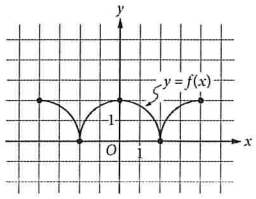


A) -5
B) -3
C) -2
D) 3

The complete graph of the function f is shown in the xy-plane above. For what value of x is the value of $f(x)$ at its minimum?

21

18



The figure above shows the complete graph of the function f in the xy-plane. The function g (not shown) is defined by $g(x) = f(x) + 6$. What is the maximum value of the function g ?

22

8

x	$w(x)$	$t(x)$
1	-1	-3
2	3	-1
3	4	1
4	3	3
5	-1	5

The table above shows some values of the functions w and t. For which value of x is $w(x) + t(x) = x$?

A) 1
B) 2
C) 3
D) 4

23

25

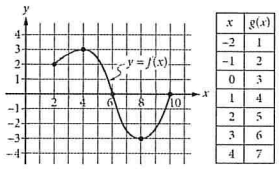
x	$f(x)$
0	-2
2	4
6	16

Some values of the linear function f are shown in the table above. What is the value of $f(3)$?

A) 6
B) 7
C) 8
D) 9

24

30



x	$g(x)$
-2	1
-1	2
0	3
1	4
2	5
3	6
4	7

The complete graph of the function f and a table of values for the function g are shown above. The maximum value of f is k. What is the value of $g(k)$?

A) 7
B) 6
C) 3
D) 0

1 C
2 D
3 C
4 A
5 B
6 D
7 C
8 2
9 B
10 A
11 D
12 A
13 B
14 D
15 B
16 D
17 C
18 3
19 B
20 B
21 8
22 B
23 B
24 B