

# Function Operations & Composite Functions: Hidden Picture

61	11	23	28	-63	58	-23	64	-27
52	-49	17	-16	19	20	-2	-82	46
83	-6	58	80	-70	91	-58	24	-61
13	71	3	30	-43	51	90	59	1
21	-57	12	-9	49	-5	0	-71	-84
-72	-60	43	33	82	-46	34	70	-56
36	81	-4	-44	60	-45	41	57	94
-7	-91	2	-12	-50	4	-66	-40	16
14	40	-33	6	-8	96	44	-34	-14
-11	5	57	-48	-64	-80	-52	76	45
27	63	-42	7	10	-15	22	-59	48
-81	47	-57	-90	23	-47	-58	-83	-28

Kennedy's Classroom Resources

## Function Operations and Composite Functions Hidden Picture

Name \_\_\_\_\_

Directions: Solve the following problems. Then look for the solution on the grid and shade in that square. Once all problems are complete, the hidden picture will be revealed!

For questions 1 - 10, use the following functions:

$$f(x) = 3x + 2$$

$$g(x) = x^2 + 6x + 9$$

$$h(x) = \sqrt{x} - 10$$

1.  $f(5)$

2.  $h(16)$

3.  $3g(-2)$

4.  $f(1) + g(3)$

5.  $g(0)h(4)$

6.  $f(2) + g(-1)$

7.  $g(-1) - f(2)$

8.  $g(h(9))$

9.  $f(g(-2))$

10.  $h(g(-1))$

For questions 11 - 20, use the following functions:

$$f(x) = 5x + 1$$

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

$$h(x) = x^2 + 3x + 6$$

11.  $f(4)$

12.  $h(1)$

13.  $g(-5)$

14.  $f(10) - g(4)$

15.  $5h(0)$

16.  $h(-2) + g(2)$

17.  $g(-1) - f(3)$

18.  $f(h(1))$

19.  $f(g(-4))$

20.  $h(g(-3))$

## Function Operations and Composite Functions Hidden Picture

Name \_\_\_\_\_

For questions 21 - 30, use the following functions:

$$f(x) = x^2 + 4x - 6$$

$$g(x) = x + 4$$

$$h(x) = -3x + 1$$

21.  $f(-1)$

22.  $h(-4)$

23.  $g(-3)$

24.  $-f(3)$

25.  $-3h(-1)$

26.  $g(-2) + f(-3)$

27.  $g(1) - h(-3)$

28.  $g(h(1))$

29.  $f(g(4))$

30.  $g(h(-3))$

For questions 31 - 44, use the following functions:

$$f(x) = 3x$$

$$g(x) = 5x - x^2$$

$$h(x) = -3x - 2$$

31.  $f(0)$

32.  $g(4)$

33.  $h(-7)$

34.  $-g(6)$

35.  $-4h(1)$

36.  $h(-2) + f(6)$

37.  $g(2) \cdot h(3)$

38.  $f(-4) \cdot h(2)$

39.  $g(h(1))$

40.  $f(g(-2))$

\*Challenge\*

41.  $g(f(h(-2)))$

42.  $g(h(f(-1)))$

43.  $h(f(g(3)))$

44.  $f(x) + h(x)$

## Function Operations and Composite Functions Hidden Picture

Name Solutions

Directions: Solve the following problems. Then look for the solution on the grid and shade in that square. Once all problems are complete, the hidden picture will be revealed!

For questions 1 - 10, use the following functions:

$$f(x) = 3x + 2$$

$$g(x) = x^2 + 6x + 9$$

$$h(x) = \sqrt{x} - 10$$

1.  $f(5)$

17

2.  $h(16)$

-6

3.  $3g(-2)$

3

4.  $f(1) + g(3)$

41

5.  $g(0) \cdot h(4)$

-72

6.  $f(2) + g(-1)$

12

7.  $g(-1) - f(2)$

-4

8.  $g(h(9))$

16

9.  $f(g(-2))$

5

10.  $h(g(-1))$

-8

For questions 11 - 20, use the following functions:

$$f(x) = 5x + 1$$

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

$$h(x) = x^2 + 3x + 6$$

11.  $f(4)$

21

12.  $h(1)$

10

13.  $g(-5)$

24

14.  $f(10) - g(4)$

36

15.  $5h(0)$

30

16.  $h(-2) + g(2)$

7

17.  $g(-1) - f(3)$

-16

18.  $f(h(1))$

51

19.  $f(g(-4))$

76

20.  $h(g(-3))$

94

## Function Operations and Composite Functions Hidden Picture

Name Solutions

For questions 21 - 30, use the following functions:

$$f(x) = x^2 + 4x - 6$$

$$g(x) = x + 4$$

$$h(x) = -3x + 1$$

21.  $f(-1)$

-9

22.  $h(-4)$

13

23.  $g(-3)$

1

24.  $-f(3)$

-15

25.  $-3h(-1)$

-12

26.  $g(-2) + f(-3)$

-7

27.  $g(1) - h(-3)$

-5

28.  $g(h(1))$

2

29.  $f(g(4))$

90

30.  $g(h(-3))$

14

For questions 31 - 44, use the following functions:

$$f(x) = 3x$$

$$g(x) = 5x - x^2$$

$$h(x) = -3x - 2$$

31.  $f(0)$

0

32.  $g(4)$

4

33.  $h(-7)$

19

34.  $-g(6)$

6

35.  $-4h(1)$

20

36.  $h(-2) + f(6)$

22

37.  $g(2) \cdot h(3)$

-66

38.  $f(-4) \cdot h(2)$

96

39.  $g(h(1))$

-50

40.  $f(g(-2))$

-42

\*Challenge\*

41.  $g(f(h(-2)))$

-84

42.  $g(h(f(-1)))$

-14

43.  $h(f(g(3)))$

-56

44.  $f(x) + h(x)$

-2

# Function Operations and Composite Functions Hidden Picture

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-11	5	57	-48	-64	-80	-52	76	45
27	63	-42	7	10	-15	22	-59	48
-81	47	-57	-90	23	-47	-58	-83	-28

# Function Operations and Composite Functions Hidden Picture

Name \_\_\_\_\_

## Solution

61	11	23	28	-63	58	-23	64	-27
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