

Name: \_\_\_\_\_

Date \_\_\_\_\_

Topic : Composition of Functions - Worksheet 1

Using  $f(x) = 4x + 3$  and  $g(x) = x - 2$ , find:

1.  $f(g(5))$

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

3.  $f(f(7))$

4.  $g(f(x))$

Using  $f(x) = 6x^2$  and  $g(x) = 14x + 4$  find:

5.  $(f \circ g)(x)$

6.  $(g \circ f)(x)$

7. *Are these two answers the same? What does this information tell you about composition?*

The notation  $[x]$  means the greatest integer not exceeding the value of  $x$ . Given

$f(x) = [x]$ ,  $g(x) = 12x$  and  $h(x) = 6/x$  find:

8.  $(f \circ g)(5)$

9.  $(f \circ h)(x)$

10.  $(h \circ f)(3)$



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Topic : Composition of Functions - Worksheet 1 **ANSWERS**

1.  $15$

2.  $-23$

3.  $127$

4.  $4x + 1$

5.  $1176x^2 + 672x + 96$

6.  $84x^2 + 4$

7.  $(f \circ g)(x)$  And  $(g \circ f)(x)$  are two different composition and their values need not be same.

8.  $60$

9.  $6/x$

10.  $2$



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Topic : Composition of Functions - Worksheet 2

Using  $f(x) = 5x + 4$  and  $g(x) = x - 3$ , find:

1.  $f(g(6))$

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

3.  $f(f(8))$

4.  $g(f(x))$

Using  $f(x) = 8x^2$  and  $g(x) = 2x + 8$  find:

5.  $(f \circ g)(x)$

6.  $(f \circ g)(x)$

7. *Are these two answers the same? What does this information tell you about composition?*

The notation  $[x]$  means the greatest integer not exceeding the value of  $x$ . Given  $f(x) = [x]$ ,  $g(x) = 15x$  and  $h(x) = 8/x$  find:

8.  $(f \circ g)(6)$

9.  $(f \circ h)(4)$

10.  $(h \circ f)(4)$



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Topic : Composition of Functions - Worksheet 2 **ANSWERS**

1. **19**

2. **-34**

3. **224**

4.  **$5x + 1$**

5.  **$32x^2 + 256x + 512$**

6.  **$32x^2 + 256x + 512$**

7.  ***$(f \circ g)(x)$  And  $(f \circ g) (x)$  are two different composition and their values could be same.***

8. **90**

9. **2**

10. **2**



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Topic : Composition of Functions - Worksheet 3

Using  $f(x)=6x+2$  and  $g(x)=x-5$ , find:

1.  $f(g(7))$

2.  $g(f(3))$

3.  $f(f(2))$

4.  $g(g(x))$

Using  $f(x)=2x^2$  and  $g(x)=3x+4$  find:

5.  $(g \circ f)(5)$

6.  $(f \circ g)(5)$

7. Are these two answers the same? What does this information tell you about composition?

The notation  $[x]$  means the greatest integer not exceeding the value of  $x$ . Given

$f(x) = [x]$ ,  $g(x) = 8x$  and  $h(x) = 5/x$  find:

8.  $(f \circ g)(4)$

9.  $(f \circ h)(2)$

10.  $(h \circ f)(x)$



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Topic : Composition of Functions - Worksheet 3 **ANSWERS**

1. **14**

2. **15**

3. **86**

4.  **$x-10$**

5. **154**

6. **722**

7.  **$(g \circ f)(5)$  And  $(f \circ g)(5)$  are two different composition and their values need not be same.**

8. **32**

9. **2.5**

10.  **$5/x$**



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Topic : Composition of Functions - Worksheet 4

Using  $f(x) = 7x + 4$  and  $g(x) = 2x - 4$ , find:

1.  $f(g(3))$

2.  $g(f(4))$

3.  $f(f(3))$

4.  $g(g(5))$

Using  $f(x) = 8x$  and  $g(x) = 4x + 2$  find:

5.  $(g \circ g)(x)$

6.  $(f \circ f)(x)$

7. Are these two answers the same? What does this information tell you about composition?

The notation  $[x]$  means the greatest integer not exceeding the value of  $x$ . Given

$f(x) = [x]$ ,  $g(x) = 4x$  and  $h(x) = 4/x$  find:

8.  $(f \circ g)(x)$

9.  $(f \circ h)(4)$

10.  $(h \circ f)(2)$



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Topic : Composition of Functions - Worksheet 4 **ANSWERS**

1. **18**

2. **60**

3. **179**

4. **8**

5.  **$16x + 10$**

6.  **$64x$**

7. ***NO,  $(g \circ g)(x)$  And  $(f \circ f)(x)$  are two different composition and their values need not be same.***

8.  **$4x$**

9. **1**

10. **2**





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Topic : Composition of Functions - Worksheet 5

Using  $f(x) = 8x + 5$  and  $g(x) = 7x - 2$ , find:

1.  $f(g(4))$

2.  $g(f(6))$

3.  $f(f(3))$

4.  $g(g(2))$

Using  $f(x) = 7x^2$  and  $g(x) = 5x + 1$  find:

5.  $(g \circ g)(2)$

6.  $(f \circ f)(2)$

7. *Are these two answers the same? What does this information tell you about composition?*

*The notation  $[x]$  means the greatest integer not exceeding the value of  $x$ . Given*

*$f(x) = [x]$ ,  $g(x) = 6x^2$  and  $h(x) = 6/2x$  find:*

8.  $(f \circ g)(3)$

9.  $(f \circ h)(5)$

10.  $(h \circ f)(3)$



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Topic : Composition of Functions - Worksheet 5 **ANSWERS**

1. **213**

2. **369**

3. **237**

4. **82**

5. **56**

6. **5488**

7. ***NO,  $(g \circ g)(2)$  And  $(f \circ f)(2)$  are two different composition and their values need not be same.***

8. **54**

9.  **$\frac{3}{5}$**

10. **1**

