Level 1-Basic Nested Function

No Calculator

Khan Academy Link: https://www.khanacademy.org/math/algebra2/manipulating-functions/funciton-composition/v/new-function-from-composition

1. $If\ f(x) = 6x + 9, what\ is\ f(4x)?$
2. $If\ f(x) = -4x + 13, what\ is\ f(3x)?$
3. $If\ f(x) = -9x + 11, what\ is\ f(-2x)?$
4. $If\ f(x) = -3x + 3, what\ is\ f(-3x)?$
5. $If\ f(x) = -9x + 8, what\ is\ f(-2x)?$
6. $If\ f(x) = -4x + 7, what\ is\ f(-3x)?$
7. $If\ f(x) = -3x + 8, what\ is\ f(2x)?$
8. $If\ f(x) = 3x + 13, what\ is\ f(4x)?$
9. $If\ f(x) = -7x^2 + 7, what\ is\ f(-4x)?$
10. $If\ f(x) = -5x^2 + 15, what\ is\ f(4x)?$
11. $If\ f(x) = -3x^2 + 3, what\ is\ f(4x)?$
12. $If\ f(x) = 4x^2 + 10, what\ is\ f(-3x)?$
13. $If\ f(x) = 9x^2 + 9, what\ is\ f(2x)?$
14. $If\ f(x) = 2x^2 + 8, what\ is\ f(-2x)?$
15. $If\ f(x) = -2x^2 + 6, what\ is\ f(-3x)?$

Answer

$$1.\ f(4x) = 24x + 9$$

$$2.\ f(3x) = -12x + 13$$

$$3.\ f(-2x) = 18x + 11$$

$$4.\ f(-3x) = 9x + 3$$

$$5.\ f(-2x) = 18x + 8$$

$$6.\ f(-3x) = 12x + 7$$

$$7.\ f(2x) = -6x + 8$$

$$8.\ f(4x) = 12x + 13$$

$$9.\ f(-4x) = -112x^2 + 7$$

$$10.\ f(4x) = -80x^2 + 15$$

$$11.\ f(4x) = -48x^2 + 3$$

$$12.\ f(-3x) = 36x^2 + 10$$

$$13.\ f(2x) = 36x^2 + 9$$

$$14.\ f(-2x) = 8x^2 + 8$$

$$15.\ f(-3x) = -18x^2 + 6$$