## Mathematics: Substitutions Demo Demo - Set 4

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1) Simplify algebraic expression 5x + 7x + 2x =

$$5x - 5x + 7x + 2x =$$

- a) Solve for x = 0
- b) Solve for x = 1
- c) Solve for x=2
- 2) Simplify algebraic expression 2x + 2x + 9x 6x =
- a) Solve for x=2
- b) Solve for x = 0
- c) Solve for x = 1
- 3) Simplify algebraic expression

$$9x - 6x + 3x - 2x =$$

- a) Solve for x = 4
- b) Solve for x = 5
- c) Solve for x = 1
- 4) Simplify algebraic expression

$$3x + 7x - 9x + 7x =$$

- a) Solve for x = 1
- b) Solve for x = 0
- c) Solve for x = 2

5) Simplify algebraic expression (x+2) - 1 + 8 + 5 - 4 =

a) Solve for 
$$x = 3$$

- b) Solve for x = 2
- c) Solve for x = 8
- 6) Simplify algebraic expression (4-2) + 5 + 9x 2x x =

a) Solve for 
$$x = 0$$

- b) Solve for x = 1
- c) Solve for x=2
- 7) Simplify algebraic expression 6x + 5 + (8 5) 2 1 =

a) Solve for 
$$x = 0$$

- b) Solve for x = 1
- c) Solve for x = 2
- 8) Simplify algebraic expression (8+3+x-1)-(x+8) =

a) Solve for 
$$x = 7$$

- b) Solve for x = 10
- c) Solve for x = 0

$$((9x + 3x + x)) + 7y - 0x - 5y =$$

- a) Solve for x = 1, y = 2
- b) Solve for x = 0, y = 7
- c) Solve for x = 0, y = 4
- 10) Simplify algebraic expression

$$(9x - 3x + 10y) - ((5y + 2y) - 2y) =$$

- a) Solve for x = 0, y = 0
- b) Solve for x = 1, y = 0
- c) Solve for x = 1, y = 1
- 11) Simplify algebraic expression

$$((8x + 8y) - 5y) + ((10y - 4y) - y) =$$

- a) Solve for x = 1, y = 0
- b) Solve for x = 0, y = 0
- c) Solve for x = 0, y = 2
- 12) Simplify algebraic expression

$$4x - 2x + ((6y + 2x) + (6x - 2x)) =$$

- a) Solve for x = 0, y = 1
- b) Solve for x = 1, y = 0
- c) Solve for x = 0, y = 0

$$((8y + 7y - 5y - y) - (7y - 0x)) =$$

- a) Solve for x = 3, y = 6
- b) Solve for x = 9, y = 1
- c) Solve for x = 8, y = 7
- 14) Simplify algebraic expression

$$((0x + 0z) + (10x - 2x)) - (9z - 9z) =$$

- a) Solve for z = 6, x = 0
- b) Solve for z = 6, x = 2
- c) Solve for z = 5, x = 0
- 15) Simplify algebraic expression

$$(7x - 3x) + (0x + 2z - (2z - 0x)) =$$

- a) Solve for z = 3, x = 2
- b) Solve for z = 6, x = 4
- c) Solve for z = 7, x = 0
- 16) Simplify algebraic expression

$$(7y + 0x + (2y + 9z)) + 2x - 2x =$$

- a) Solve for z = 1, x = 3, y = 0
- b) Solve for z = 0, x = 3, y = 0
- c) Solve for z = 1, x = 7, y = 0

$$5x - 16 + (-5x) - (-8) - 6y - (-11) =$$

- a) Solve for x = 10, y = 0
- b) Solve for x = 3, y = 3
- c) Solve for x = 1, y = 0
- 18) Simplify algebraic expression

$$(10 + 9 - 6 + (-7x) - (-3x)) - 7y =$$

- a) Solve for x = 7, y = 0
- b) Solve for x = 4, y = 1
- c) Solve for x = 1, y = 2
- 19) Simplify algebraic expression

$$(8x + (-2)) - (-3y) + 4y + 7y - 14 =$$

- a) Solve for x = 2, y = 0
- b) Solve for x = 0, y = 2
- c) Solve for x = 4, y = 0
- 20) Simplify algebraic expression

$$(7y + 0x) + 6y - 2y - 5y + (-9) =$$

- a) Solve for x = 0, y = 0
- b) Solve for x = 3, y = 2
- c) Solve for x = 6, y = 2

$$3x + 0x \div ((5x \times 10) - 45x) - x =$$

- a) Solve for x = 3
- b) Solve for x=2
- c) Solve for x = 4

22) Simplify algebraic expression

$$(4x - 4x) + (7x + 0x) - (5x + x) =$$

- a) Solve for x = 9
- b) Solve for x = 10
- c) Solve for x = 1

23) Simplify algebraic expression

$$(10x - 10x) \times 8x \div ((16x \div 2) + 9x) =$$

- a) Solve for x = 9
- b) Solve for x = 4
- c) Solve for x = 0

$$(7x + 2x - 9x) \times x \times (9x + 5x) =$$

- a) Solve for x = 9
- b) Solve for x = 4
- c) Solve for x = 5

$$(8x - 8x) \div (10x) \div (10x) \times (24x \div 3) =$$

- a) Solve for x = 6
- b) Solve for x = 10
- c) Solve for x = 0
- 26) Simplify algebraic expression

$$(6x - x) \div (80x \div 10 - 3x) \times x =$$

- a) Solve for x=9
- b) Solve for x = 0
- c) Solve for x = 1
- 27) Simplify algebraic expression

$$7x - 5x - (x \times 2 - 8x + 7x) =$$

- a) Solve for x=2
- b) Solve for x = 1
- c) Solve for x = 10
- 28) Simplify algebraic expression

$$(81x \div 9) - 9x + 7x + 4x - 7x =$$

- a) Solve for x=0
- b) Solve for x = 1
- c) Solve for x = 2

$$12x \div 6 \div (((5x \times 3 - 9x)) \div 6) =$$

- a) Solve for x=4
- b) Solve for x = 3
- c) Solve for x = 7
- 30) Simplify algebraic expression

$$(12x \div 2 \times 12 \div (9x) \div (2-1)) =$$

- a) Solve for x = 6
- b) Solve for x = 4
- c) Solve for x = 8
- 31) Simplify algebraic expression

$$((45 \div 9) + 4x) - 3 - (1 \times 1) =$$

- a) Solve for x = 0
- b) Solve for x=2
- c) Solve for x = 1
- 32) Simplify algebraic expression

$$((3+x)+8)-3-2 \div 1 =$$

- a) Solve for x = 1
- b) Solve for x=2
- c) Solve for x = 0

$$(15 - x) + (-10x) + 10x - (5x + 6) =$$

- a) Solve for x=0
- b) Solve for x = 3
  - c) Solve for x = 2

34) Simplify algebraic expression

$$(14+x) + (-7x) + 0 \div (-1) \times 40x =$$

- a) Solve for x=4
- b) Solve for x = 1
- c) Solve for x = 3

35) Simplify algebraic expression

$$(0 \div (-1)) \div (3 \times (-4) - (9x - 8x)) =$$

- a) Solve for x=4
- b) Solve for x = 3
- c) Solve for x = 9

$$10 - 0x + (8x \div (-2)) - 21 \div (-3) =$$

- a) Solve for x = 5
- b) Solve for x = 4
- c) Solve for x = 3

$$(0 \div (-5)) \div 1 \div (-20) \div (36x \div (-4)) =$$

- a) Solve for x = 4
- b) Solve for x = 1
- c) Solve for x = 0

38) Simplify algebraic expression

$$(4x) + (3 \times 1 + (-20)) - 3 =$$

- a) Solve for x = 7
- b) Solve for x = 4
- c) Solve for x = 6

39) Simplify algebraic expression

$$(18 \div 6) - 0 \div 2 \div (4x + (-7x)) =$$

- a) Solve for x = 8
- b) Solve for x = 10
- c) Solve for x = 6

40) Simplify algebraic expression

$$(9-0) - 0x \div (50x \div 10) \div (5x) =$$

- a) Solve for x = 0
- b) Solve for x = 6
- c) Solve for x = 9

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$$2y - 0y \div ((40x \div 5 \div (3x - x))) =$$

- a) Solve for x = 3, y = 1
- b) Solve for x = 8, y = 2
- c) Solve for x = 6, y = 4

42) Simplify algebraic expression

$$(5y + 0y) - 0x \div ((3x + 4y)) \times y =$$

- a) Solve for x = 6, y = 1
- b) Solve for x = 3, y = 1
- c) Solve for x = 8, y = 2

43) Simplify algebraic expression

$$(2x \times 5) - 0y \div (8y + 4y) \times 0x =$$

- a) Solve for x = 1, y = 1
- b) Solve for x = 1, y = 4
- c) Solve for x = 1, y = 0

$$(49y \div 7) - 0y \div (9x) \times 15x - 5y =$$

- a) Solve for x = 1, y = 4
- b) Solve for x = 9, y = 2
- c) Solve for x = 7, y = 1

$$(63x \div 7) - 0y \div ((2y \div 1)) \times 0y =$$

- a) Solve for x = 1, y = 0
- b) Solve for x = 1, y = 1
- c) Solve for x = 1, y = 8
- 46) Simplify algebraic expression

$$6x + 4z - (7x + 2z - 5x) + 2x =$$

- a) Solve for z = 3, x = 0
- b) Solve for z = 1, x = 1
- c) Solve for z = 0, x = 1
- 47) Simplify algebraic expression

$$(2y \times 8 - 10y + x) + (3 \times 0) =$$

- a) Solve for x = 3, y = 1
- b) Solve for x = 2, y = 0
- c) Solve for x = 9, y = 0
- 48) Simplify algebraic expression

$$(7x + 6x - 5x + 0y - 0x \div 3) =$$

- a) Solve for x = 1, y = 1
- b) Solve for x = 1, y = 10
- c) Solve for x = 1, y = 3

$$(0 \times 4x) \times 56 \times (3 \div (-3) - 1) =$$

- a) Solve for x = 3
- b) Solve for x = 8
  - c) Solve for x = 1

50) Simplify algebraic expression

$$(90x \div (-10)) + 8x - 7 - (1 \times (-6y)) =$$

- a) Solve for x = 4, y = 3
- b) Solve for x = 8, y = 2
- c) Solve for x = 10, y = 3

51) Simplify algebraic expression

$$(10-13) \times 0 \div ((60 \div (-10) - (-5x))) =$$

- a) Solve for x = 10
- b) Solve for x = 8
- c) Solve for x = 0

$$(2y + 10x) - (5y - (-6x)) + y \times (-8) =$$

- a) Solve for x = 8, y = 2
- b) Solve for x = 9, y = 4
- c) Solve for x = 3, y = 1

$$0x \times 0 \div ((7x \times 0 + (-4y))) - y =$$

- a) Solve for x = 2, y = 5
- b) Solve for x = 6, y = 8
- c) Solve for x = 5, y = 5
- 54) Simplify algebraic expression

$$5x + 8 - (4y + 4x + (-10)) - 9y =$$

- a) Solve for x = 2, y = 2
- b) Solve for x = 5, y = 1
- c) Solve for x = 2, y = 1
- 55) Simplify algebraic expression

$$(3 \div (-3) + 0) - 4 + 0y - x =$$

- a) Solve for x = 1, y = 5
- b) Solve for x = 5, y = 7
- c) Solve for x = 4, y = 10
- 56) Simplify algebraic expression

$$(10y - 2y) \div 8 + (-7) + x + 9x =$$

- a) Solve for x = 1, y = 1
- b) Solve for x = 1, y = 0
- c) Solve for x = 1, y = 2

$$((8y + 10 - 7 + 5z)) - (1 - (-5z) - 20z \div (-5)) =$$

- a) Solve for z = 9, y = 4
- b) Solve for z = 10, y = 5
- c) Solve for z = 3, y = 0
- 58) Simplify algebraic expression

$$(14 \div (-2)) \times 0y \times (-4) + (((0 \div 10 + (-2)))) \times 2y =$$

- a) Solve for y=2
- b) Solve for y = 0
- c) Solve for y = 1
- 59) Simplify algebraic expression

$$9 \times (-1z) \times (((54y \div (-6) + 3y \div (-3)))) + 1 \div 1 =$$

- a) Solve for z = 9, y = 0
- b) Solve for z = 5, y = 0
- c) Solve for z = 0, y = 9
- 60) Simplify algebraic expression

$$((0+8+(-9)+(-10x)+5y-(-10x)\div(0z+(-1)))) =$$

- a) Solve for z = 0, x = 0, y = 2
- b) Solve for z = 7, x = 1, y = 3
- c) Solve for z = 6, x = 1, y = 3

$$(28x \div (-4)) + (((8 - (-10y) \div (10y)))) \times (0 \times (-5z)) \div (-3) =$$

- a) Solve for z = 5, x = 0, y = 4
- b) Solve for z = 7, x = 0, y = 1
- c) Solve for z = 3, x = 0, y = 2
- 62) Simplify algebraic expression

$$(((10 - 3y + 0z))) + 10y - ((5z + (-2)) - (-8x) - 9y) =$$

- a) Solve for z = 10, x = 6, y = 6
- b) Solve for z = 9, x = 0, y = 2
- c) Solve for z = 0, x = 4, y = 1
- 63) Simplify algebraic expression

$$(((1+5z+2)+z-7))+63 \div (-7)-(-2x) =$$

- a) Solve for z = 1, x = 5
- b) Solve for z = 0, x = 7
- c) Solve for z = 0, x = 6
- 64) Simplify algebraic expression

$$(4 + (-3x) \div (-1)) - (((8z \div (-2)) + 7y) \times (2 + (-1z))) =$$

- a) Solve for z = 7, x = 2, y = 4
- b) Solve for z = 7, x = 0, y = 4
- c) Solve for z = 2, x = 2, y = 10

$$((4x - 4x) - 2x + 2x + 10x - 6x) =$$

- a) Solve for x = 3
- b) Solve for x = 0
- c) Solve for x=2
- 2) Simplify algebraic expression

$$(3y - (-5y)) - (6y - 7y) - (9x + (-1)) =$$

- a) Solve for x = 6, y = 6
- b) Solve for x = 10, y = 8 \_\_\_\_\_\_
- c) Solve for x = 6, y = 8
- 3) Simplify algebraic expression

$$(8 \div 2) + (-9) - 0y \div 5 + 2 =$$

- a) Solve for y = 3
- b) Solve for y = 4
- c) Solve for y = 9
- 4) Simplify algebraic expression

$$(5x \div (-5)) - (0x - 16) \times (((2z \times 9) \times 0) \div (-4z)) =$$

- a) Solve for z = 8, x = 3
- b) Solve for z = 4, x = 10
- c) Solve for z = 10, x = 10

$$(0x + 0y) + ((0y + 0x) - (10x - 10x)) =$$

- a) Solve for x = 10, y = 5
- b) Solve for x = 8, y = 1
- c) Solve for x = 6, y = 9
- 2) Simplify algebraic expression

$$(6x + (-4)) - (x - 9y - 6 + 9x) =$$

- a) Solve for x = 10, y = 6
- b) Solve for x = 10, y = 4
- c) Solve for x = 5, y = 1
- 3) Simplify algebraic expression

$$(7y \times 10) \div 10 - (10y \div 10) - 2 =$$

- a) Solve for y = 1
- b) Solve for y = 0
- c) Solve for y = 2
- 4) Simplify algebraic expression

$$5y + 10y - 12 \times (((10z + 6 - 6z) - 9) \times 0) =$$

- a) Solve for z = 9, y = 0
- b) Solve for z = 2, y = 0
- c) Solve for z = 6, y = 0

$$(7y - 4y) - ((0x + 2x) - 6x + 4x) =$$

- a) Solve for x = 5, y = 1
- b) Solve for x = 3, y = 0
- c) Solve for x = 7, y = 5
- 2) Simplify algebraic expression

$$(3y - 0y + 8) + (7 - 6y - (-5)) =$$

- a) Solve for y = 9
- b) Solve for y = 3
- c) Solve for y = 10
- 3) Simplify algebraic expression

$$(10 + (-2) - 9) - (10 + 0x + (-3)) =$$

- a) Solve for x = 4
- b) Solve for x = 5
- c) Solve for x = 7
- 4) Simplify algebraic expression

$$(((8 \div (-1)) \times 0 \times (-6z) \div (-5) \div (-4y))) + 20 \div 4 =$$

- a) Solve for z = 4, y = 2
- b) Solve for z = 0, y = 6
- c) Solve for z = 0, y = 8

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1	2	3	4
9x a) 0 b) 9 c) 18	7x a) 14 b) 0 c) 7	4x a) 16 b) 20 c) 4	8x a) 8 b) 0 c) 16
5	6	7	8
x + 10 a) 13 b) 12 c) 18	6x + 7 a) 7 b) 13 c) 19	6x + 5 a) 5 b) 11 c) 17	2 a) 2 b) 2 c) 2
9	10	11	12
13x + 2y a) 17 b) 14 c) 8	6x + 5y a) 0 b) 6 c) 11	8x + 8y a) 8 b) 0 c) 16	8x + 6y a) 6 b) 8 c) 0
13	14	15	16
2y a) 12 b) 2 c) 14	8x a) 0 b) 16 c) 0	4x a) 8 b) 16 c) 0	9y + 9z a) 9 b) 0 c) 9
17	18	19	20
-6y + 3 a) 3 b) -15 c) 3	-4x - 7y + 13  a) -15  b) -10  c) -5	8x + 14y - 16 a) $3.78183e-124$ b) $12$ c) $16$	6y - 9 a) -9 b) 3 c) 3
21	22	23	24
2x a) 6 b) 4 c) 8	x a) 9 b) 10 c) 1	0 a) 0 b) 0 c) 0	0 a) 0 b) 0 c) 0
25	26	27	28
0 a) 0 b) 0 c) 0	x a) 9 b) 0 c) 1	x a) 2 b) 1 c) 10	4x a) 0 b) 4 c) 8
29	30	31	32
2 a) 2 b) 2 c) 2	8 a) 8 b) 8 c) 8	4x + 1 a) 1 b) 9 c) 5	x+6 a) 7 b) 8 c) 6
33	34	35	36
$ \begin{array}{c} -6x + 9 \\ a) 9 \\ b) -9 \\ c) -3 \end{array} $	-6x + 14 a) -10 b) 8 c) -4	0 a) 0 b) 0 c) 0	-4x + 17 a) -3 b) 1 c) 5

37	38	39	40
0	4x - 20	3	9
a) 0 b) 0	a) 8 b) -4	a) 3 b) 3	a) 9 b) 9
c) 0	c) 4	c) 3	c) 9
41	42	43	44
2y	5y	10x	2y
a) 2 b) 4	a) 5 b) 5	a) 10 b) 10	a) 8 b) 4
c) 8	c) 10	c) 10	c) 2
45	46	47	48
9x	6x + 2z	x + 6y	8x
a) 9 b) 9	a) 6 b) 8	a) 9 b) 2	a) 8
c) 9	c) 6	c) 9	b) 8 c) 8
49	50	51	52
0	-x+6y-7	0	4x - 11y
a) 0	a) 7	a) 0	a) 10
b) 0 c) 0	b) -3 c) 1	b) 0 c) 0	b) -8 c) 1
53	54	55	56
-y	x - 13y + 18	-x-5	10x + y - 7
a) -5 b) -8	a) -6 b) 10	a) -6 b) -10	a) 4 b) 3
c) -5	c) 7	c) -9	c) 5
57	58	59	60
8y - 4z + 2	-4y	90yz+1	-20x + 5y - 1
a) -2 b) 2	a) -8 b) 0	a) 1 b) 1	a) 9 b) -6
c) -10	c) -4	c) 1	c) -6
61	62	63	64
-7x	-8x + 16y - 5z + 12	2x + 6z - 13	$3x + 7yz - 14y - 4z^2 +$
a) 0	a) 10	a) 3	8z + 4 a) 10
b) 0 c) 0	b) -1 c) -4	b) 1 c) -1	b) 4
<i>c)</i> 0	C) =4	() -1	c) 10

MATHEMATICS: SUBSTITUTIONS DEMO (D-4)

SOLUTIONS: TEST 1

1	2	3	4
4x	-9x + 9y + 1	-3	-x
$\begin{vmatrix} 4x \\ a \end{vmatrix} 12$	a) 1	a) -3	a) -3
b) 0	b) -17	b) -3	b) -10
c) 8	c) 19	c) -3	c) -10

MATHEMATICS: SUBSTITUTIONS DEMO (D-4)

SOLUTIONS: TEST 2

1	2	3	4
0	-4x + 9y + 2	6y-2	15y
a) 0	a) 16	a) 4	a) 0
b) 0	b) -2	b) -2	b) 0
c) 0	c) -9	c) 10	c) 0

MATHEMATICS: SUBSTITUTIONS DEMO (D-4)

SOLUTIONS: TEST 3

1	2	3	4
3y	-3y + 20	-8	5
3 <i>y</i> a) 3	a) -7	a) -8	a) 5
b) 0	b) 11	b) -8	b) 5
c) 15	c) -10	c) -8	c) 5