



Sixth Grade - Arithmetic to Algebra

1) Evaluate the following algebraic expressions at the given value(s): $7x - 4y - 12$ at $x = 2$ and $y = -2$

- 15
- 10
- 8
- 6

2) Evaluate the following algebraic expressions at the given value(s): $3a - 4(a-5)$ at $a = 4$

- 33
- 21
- 24
- 16

3) Evaluate the following algebraic expressions at the given value(s): $-5(a - 4b)$ at $a = 3$ and $b = -1$

- -9
- -5
- -3
- -1

4) Evaluate the following algebraic expressions at the given value(s): $x(2x - 4)$ at $x = -5$

- 70
- 45
- 90
- 65

5) Evaluate the following algebraic expressions at the given value(s): $x + yz$, at $x = 1$, $y = 3$ and $z = 4$



- 16
- 11
- 19
- 13

6) Evaluate the following algebraic expressions at the given value(s): $(x + y)z$, at $x = 1$, $y = -3$ and $z = 5$

- -15
- -12
- -10
- -18

7) Evaluate the following algebraic expressions at the given value(s): $x + 2(y + z)$, at $x = -1$, $y = 2$ and $z = -5$

- -9
- -7
- -6
- -8

8) Evaluate the following algebraic expressions at the given value(s): $(x + 2)(y + z)$, at $x = -5$, $y = -3$ and $z = 2$

- 8
- 3
- 6
- 5

9) Evaluate the following algebraic expressions at the given value(s): $x - 3(y - z)$, at $x = -3$, $y = 2$ and $z = -1$

- -16
- -12
- -11



- -14

10) Evaluate the following algebraic expressions at the given value(s): $(x - 3)(y - z)$, at $x = -1$, $y = -3$ and $z = -4$

- -10
- -12
- -8
- -4

11) Simplify the following expressions in base exponent form: $3 \times 3 \times 3 \times 3 \times 3$

- 3^5
- 3^3
- 3^2
- 3^4

12) Simplify the following expressions in base exponent form: $(-3) \times (-3) \times (-3) \times (-3) \times (-3) \times (-3) \times (-3)$

- -3^7
- -3^5
- -3^3
- -3^3

13) Simplify the following expressions in base exponent form: $a \times a \times a$

- a^{12}
- a^5
- a^3
- a^1



14) Simplify the following expressions in base exponent form: $m \times m \times m \times m \times m \times m \times m$

- m^7
- m^5
- m^3
- m^2

15) Simplify the following expressions in base exponent form: $k \times k \times k \times k \times k$

- k^5
- k^3
- k^2
- k^7

16) Simplify the following expressions in base exponent form: $(a \times a \times a \times a \times a \times a) \div (a \times a \times a)$

- a^2
- a
- a^3
- a^7

17) Simplify the following expressions in base exponent form: $(a \times a \times a \times a) \div (a \times a \times a \times a \times a)$

- a
- $2 \div a$
- $1 \div a$
- $4 \div a$

18) Simplify the following expressions in base exponent form: $x^2 \times x^2 \times x^2 \times x^2 \times x^2 \times x^2 \times x^2$

- x
- x^{12}
- $6x$



19) Simplify the following expressions in base exponent form: $(x^2 \times x^2 \times x^2 \times x^2 \times x^2) \div (x^3 \times x^3 \times x^3)$

- x^3
- x^2
- $x^?$
- x

20) Simplify the following expressions in base exponent form: $(a? \times a? \times a? \times a? \times a? \times a? \times a?) \times (a? \times a? \times a? \times a? \times a?)$

- a^{12}
- $a^{??}$
- a^{22}
- $a^{3?}$

21) Add $3x^2 + 6x - 4$ and $9x^2 - 4 + 3x$

- $23x^2 + 12x - 8$
- $12x^2 + 9x - 8$
- $14x^2 + 12x - 6$
- $19x^2 + 17x - 6$

22) Add: $6a + 5c - 3b$ and $-5c - 3a + 4b$

- $4a + b$
- $2a + 2b$
- $3a + b$
- $6a + b$

23) Add: $5 + 4x + 7x^2$, $4x + 2x^2 - 5$ and $2x^2 + 6 - 5x$



- $31x^2 + 8x + 3$
- $17x^2 + 7x + 8$
- $21x^2 + 7x + 4$
- $11x^2 + 3x + 6$

24) Add: $4a - 5b + 10c - 5d$, $7b + 6c + 3d + 4a$ and $9c + 3d - 8b + 2a$

- $11a - 2b + 22c + 2d$
- $12a - 5b + 12c + d$
- $10a - 6b + 25c + d$
- $9a - 8b + 22c + 4d$

25) Subtract $3x + 7y$ from $9x + 8y$

- $6x + 7y$
- $x + 6y$
- $5x + 6y$
- $6x + y$

26) Subtract $3a + 4b$ from $9c - 5a + 7b$

- $-6a + 12b + 7c$
- $-10a + 6b + 19c$
- $-12a + 31b + 12c$
- $-8a + 3b + 9c$

27) Subtract $4x + 7 - 4x^2$ from $12 - 3x + 5x^2$

- $12x^2 - 8x + 7$
- $9x^2 - 7x + 5$
- $12x^2 - 6x + 7$
- $7x^2 - 6x + 7$



28) Subtract $5x - 8z + 4y$ from $8x - 2y - 6z$

- $4x - 8y + z$
- $4x - 7y + 3z$
- $3x - 6y + 2z$
- $4x - 5y + 3z$

29) Multiply: x with $(x + 1)$

- $x^3 + x$
- $x^2 - x$
- $x^2 + x$
- $x + 1$

30) Multiply : $(-a) . (b + 2c)$

- $-ab - 2ac$
- $-ab + 2ac$
- $ab + 2ac$
- $ab - 2ac$