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
- 8
- 10
- 6

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

- 33
- 21
- 16
- 24

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

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

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

- 70
- 45
- 65
- 90

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

- 19
- 11
- 16
- 13

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

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

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

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

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

- 5
- 6
- 8
- 3

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

- -14
- -11
- -12

- -16

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

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

11) Simplify the following expressions in base exponent form: 3 × 3 × 3 ×3 × 3

- 3?
- 3?
- 3^2
- 3?

12) Simplify the following expressions in base exponent form: (-3) × (-3) × (-3) × (-3) × (-3) × (-3) × (-3)?

- -3?
- -3?
- -3?
- -3^3

13) Simplify the following expressions in base exponent form: a × a × a × a × a × a × a × a × a

- a^{12}
- a^1?
- a?
- a?

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

- m?
- m^2
- m?
- m?

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

- k?
- k^2
- k?
- k^3

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
- a^3
- a^2
- a?

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

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

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

- 6x
- x^{12}
- x
- x^1?

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
- x^3
- x^2
- x?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

29) Multiply: x with (x +1)

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

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

- -ab – 2ac
- -ab + 2ac
- ab + 2ac
- ab – 2ac