EXPRESSWALA ACADEMY

Algebra (Introduction)

MCQ Test, Set 03

Time: 30 minutes | Maximum marks: 25

Name: _____ Class: _____ Date: _____

1. There are 25 questions. Each has exactly one correct answer: choose A, B, C or D.
2. Each correct answer carries 1 mark. There is no negative marking.
3. The key sheet and worked solutions are at the end of this test.

1. A symbol which has a fixed value is called a

A. term **B.** literal **C.** variable **D.** constant

2. Which of p, n, t and -16 is a constant?

A. p **B.** n **C.** t **D.** -16

3. $-16 \times c =$

A. $-16c$ **B.** $-16 + c$ **C.** $16c$ **D.** $c + 16$

4. The product of b and z is

A. $b + z$ **B.** $\frac{b}{z}$ **C.** $b - z$ **D.** bz

5. The symbolic form of '54 divided by t' is

A. $54t$ **B.** $\frac{t}{54}$ **C.** $\frac{54}{t}$ **D.** $54 - t$

6. The symbolic form of '6 times b added to 5 times c' is

A. $11bc$ **B.** $5c + 6b$ **C.** $5c - 6b$ **D.** $30bc$

7. The symbolic form of '9 less than one third of x' is

A. $\frac{x}{3} - 9$ **B.** $9 - \frac{x}{3}$ **C.** $\frac{x-9}{3}$ **D.** $\frac{x}{3} + 9$

8. The symbolic form of '11 more than one third of c' is

A. $\frac{c}{3} + 11$ **B.** $\frac{c}{3} - 11$ **C.** $\frac{c+11}{3}$ **D.** $3c + 11$

9. $0 \times xz =$

A. $-xz$ **B.** xz **C.** 0 **D.** 1

10. $\frac{c}{1} =$

A. 1 **B.** c **C.** $\frac{1}{c}$ **D.** 0

11. The terms of $9y + 10r - 12$ are

A. $9y$ and $10r$ only **B.** $9y$, $10r$, -12

C. $9y$, $10r$, 12 **D.** $9y + 10r$ and -12

12. Which of the following is not a way of writing 48 as a product of two factors?

A. 6×8 **B.** 3×16 **C.** 7×7 **D.** 4×12

13. Which of the following is not a factor of $3pqr$?

A. q **B.** m **C.** 3 **D.** p

14. In $10xy$, $10y$ is the coefficient of

A. x **B.** y **C.** $10xy$ **D.** xy

15. The coefficient of n in $18np$ is

A. 18 **B.** p **C.** $18n$ **D.** $18p$

16. The coefficient of ab in $\frac{ab}{6}$ is

A. $\frac{1}{6}$ **B.** 6 **C.** 1 **D.** 0

17. The coefficient of y in $-\frac{y}{5}$ is

A. -5 **B.** $\frac{1}{5}$ **C.** 5 **D.** $-\frac{1}{5}$

18. Which of the following is a like term of $3y$?

A. 3 **B.** $3py$ **C.** $3a$ **D.** $6y$

19. Which of the following is not a like term of $-15m$?

A. $13m$ **B.** $8q$ **C.** $-3m$ **D.** $-2m$

20. The sum of $15pq$ and $11pq$ is

A. $-4pq$ **B.** $165pq$ **C.** $26pq$ **D.** 26

21. $6yz + 19yz =$

A. $25yz$ **B.** $114yz$ **C.** 25 **D.** $13yz$

22. $2xy + 16yz + 10xy + 16yz =$

A. $18xy + 26yz$ **B.** $12xy + 32yz$ **C.** $32xy + 12yz$ **D.** $44xyyz$

23. $16q - 14q =$

A. $-30q$ **B.** $-2q$ **C.** $2q$ **D.** $30q$

24. $5ac - 5ac =$

A. $10ac$ **B.** ac **C.** 0 **D.** $-10ac$

25. $3q - 18c - 14q - 4c =$

A. $11q - 22c$ **B.** $-11q + 22c$ **C.** $-33cq$ **D.** $-11q - 22c$

Key sheet

1. D	**2.** D	**3.** A	**4.** D	**5.** C
6. B	**7.** A	**8.** A	**9.** C	**10.** B
11. B	**12.** C	**13.** B	**14.** A	**15.** D
16. A	**17.** D	**18.** D	**19.** B	**20.** C
21. A	**22.** B	**23.** C	**24.** C	**25.** D

Solutions

1. A symbol which has a fixed value is called a

A symbol with a fixed value is a constant, e.g. 8, -3, $\frac{2}{5}$.

Ans: (D) constant

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2. Which of p, n, t and -16 is a constant?

-16 has a fixed value, so it is a constant.

p, n and t can take various values: they are variables.

Ans: (D) -16

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3. $-16 \times c =$

$-16 \times c = -16c$

Write the number first, then the letter.

Ans: (A) $-16c$

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4. The product of b and z is

Multiply: $b \times z = bz$

Ans: (D) bz

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5. The symbolic form of '54 divided by t' is

54 divided by t is $\frac{54}{t}$

Ans: (C) $\frac{54}{t}$

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6. The symbolic form of '6 times b added to 5 times c' is

6 times b is $6b$; 5 times c is $5c$.

Add $6b$ to $5c$: $5c + 6b$

Ans: (B) $5c + 6b$

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7. The symbolic form of '9 less than one third of x' is

One third of x is $\frac{x}{3}$.

9 less than it: take away 9.

$\frac{x}{3} - 9$

Ans: (A) $\frac{x}{3} - 9$

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8. The symbolic form of '11 more than one third of c' is

One third of c is $\frac{c}{3}$.

11 more than it: add 11.

$\frac{c}{3} + 11$

Ans: (A) $\frac{c}{3} + 11$

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9. $0 \times xz =$

Rule: $0 \times a = 0$

$0 \times xz = 0$

Ans: (C) 0

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10. $\frac{c}{1} =$

Rule: $\frac{a}{1} = a$

$\frac{c}{1} = c$

Ans: (B) c

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11. The terms of $9y + 10r - 12$ are

Each term keeps the sign in front of it.

The terms are $9y$, $10r$ and -12.

Ans: (B) $9y$, $10r$, -12

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12. Which of the following is not a way of writing 48 as a product of two factors?

$6 \times 8 = 48$, $3 \times 16 = 48$, $4 \times 12 = 48$

$7 \times 7 = 49 \neq 48$

Ans: (C) 7×7

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13. Which of the following is not a factor of $3pqr$?

$3pqr = 3 \times p \times q \times r$

m is not in this product, so it is not a factor.

Ans: (B) m

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14. In $10xy$, $10y$ is the coefficient of

$10xy = 10y \times x$

So $10y$ is the coefficient of x.

Ans: (A) x

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15. The coefficient of n in $18np$ is

$18np = 18p \times n$

So the coefficient of n is $18p$.

Ans: (D) $18p$

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16. The coefficient of ab in $\frac{ab}{6}$ is

$\frac{ab}{6} = \frac{1}{6} \times ab$

So the coefficient of ab is $\frac{1}{6}$.

Ans: (A) $\frac{1}{6}$

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17. The coefficient of y in $-\frac{y}{5}$ is

$-\frac{y}{5} = -\frac{1}{5} \times y$

So the coefficient of y is $-\frac{1}{5}$.

Ans: (D) $-\frac{1}{5}$

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18. Which of the following is a like term of $3y$?

Like terms have the same literal factors y.

$3y$, $6y$: the same literal factors y, so like terms.

Ans: (D) $6y$

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19. Which of the following is not a like term of $-15m$?

Like terms have the same literal factors m.

$-15m$ has literal factors m, $8q$ has literal factors q: different, so unlike terms.

Ans: (B) $8q$

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20. The sum of $15pq$ and $11pq$ is

$15pq + 11pq = (15 + 11)pq$

$= 26pq$

Ans: (C) $26pq$

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21. $6yz + 19yz =$

$6yz + 19yz = (6 + 19)yz$

$= 25yz$

Ans: (A) $25yz$

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22. $2xy + 16yz + 10xy + 16yz =$

$2xy + 16yz + 10xy + 16yz = (2xy + 10xy) + (16yz + 16yz)$

$= (2 + 10)xy + (16 + 16)yz$

$= 12xy + 32yz$

Ans: (B) $12xy + 32yz$

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23. $16q - 14q =$

$16q - 14q = (16 - 14)q = 2q$

Signs different: subtract and keep the sign of the bigger: $16 - 14 = 2$

Ans: (C) $2q$

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24. $5ac - 5ac =$

$5ac - 5ac = (5 - 5)ac = 0 \times ac = 0$

Ans: (C) 0

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25. $3q - 18c - 14q - 4c =$

$3q - 18c - 14q - 4c = (3q - 14q) + (-18c - 4c)$

$= (3 - 14)q + (-18 - 4)c$

$= -11q - 22c$

Ans: (D) $-11q - 22c$