

Algebra (Introduction)

MCQ Test, Set 08

Time: 30 minutes

Maximum marks: 25

Name: _____ Class: _____ Date: _____

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

1. Which of $-\frac{1}{3}$, -16 , 7 and a is a variable?

A. $-\frac{1}{3}$

B. -16

C. 7

D. a

2. Which of r , -10 , n and t is a constant?

A. r

B. -10

C. n

D. t

3. $5 \times t =$

A. $5t$

B. $-5t$

C. $5 + t$

D. $t - 5$

4. The product of 17 and c is

A. $\frac{17}{c}$

B. $c + 17$

C. $17c$

D. $\frac{c}{17}$

5. The symbolic form of 'divide x by 5 ' is

A. $5x$

B. $\frac{x}{5}$

C. $x - 5$

D. $\frac{5}{x}$

6. The symbolic form of '30 more than m ' is

A. $m - 30$

B. $m + 30$

C. $30m$

D. $30 - m$

7. The symbolic form of '9 less than half of a ' is

A. $\frac{a}{2} + 9$

B. $9 - \frac{a}{2}$

C. $\frac{a}{2} - 9$

D. $\frac{a-9}{2}$

8. The symbolic form of '10 more than half of y ' is

A. $\frac{y}{2} - 10$

B. $\frac{y}{2} + 10$

C. $2y + 10$

D. $\frac{y+10}{2}$

9. $0 \times p =$

A. 0

B. 1

C. p

D. $-p$

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

A. 1

B. 0

C. pq

D. $\frac{1}{pq}$

11. Which of $\frac{11a}{t}$, $-15bc$, 14 and $8a - t$ is not a term?

A. $\frac{11a}{t}$

B. $-15bc$

C. 14

D. $8a - t$

12. The factors of $-9pqt$ are
A. p, q, t only **B.** $-9, p, q, t$ **C.** $9, p, q, t$ **D.** -9 only
-
13. Which of the following is not a way of writing 72 as a product of two factors?
A. 6×12 **B.** 5×14 **C.** 2×36 **D.** 4×18
-
14. The coefficient of m in $8mnq$ is
A. $8nq$ **B.** 8 **C.** nq **D.** $8m$
-
15. The coefficient of mn in $-18mn$ is
A. -18 **B.** 18 **C.** $-18mn$ **D.** mn
-
16. The coefficient of mp in $\frac{mp}{10}$ is
A. 10 **B.** 0 **C.** 1 **D.** $\frac{1}{10}$
-
17. The coefficient of t in $-\frac{t}{7}$ is
A. $\frac{1}{7}$ **B.** 7 **C.** $-\frac{1}{7}$ **D.** -7
-
18. Terms which contain the same literal factors are called
A. unlike terms **B.** constants **C.** like terms **D.** factors
-
19. Which of the following is not a like term of $10pqt$?
A. $-9pqt$ **B.** $2pqt$ **C.** $-\frac{3}{4}pqt$ **D.** $-5nqt$
-
20. The sum of $4mp$ and $13mp$ is
A. 17 **B.** $17mp$ **C.** $9mp$ **D.** $52mp$
-
21. $7a + 12a + 15a =$
A. $34a$ **B.** $19a$ **C.** 34 **D.** $27a$
-
22. $19y + 8 + 5y + 6 =$
A. $38y$ **B.** $14y + 24$ **C.** $27y + 11$ **D.** $24y + 14$
-
23. $10c - 14c =$
A. $-24c$ **B.** $4c$ **C.** $24c$ **D.** $-4c$
-
24. $-7q + 9q =$
A. $16q$ **B.** $-2q$ **C.** $2q$ **D.** $-16q$
-
25. $17b + 8 - 18b + 5 =$
A. $-b + 13$ **B.** $b + 13$ **C.** $-b - 13$ **D.** $12b$
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Key sheet

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

Solutions

1. Which of $-\frac{1}{3}$, -16 , 7 and a is a variable?

a can take various numerical values, so it is a variable.

$-\frac{1}{3}$, -16 and 7 have fixed values: they are constants.

Ans: (D) a

2. Which of r , -10 , n and t is a constant?

-10 has a fixed value, so it is a constant.

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

Ans: (B) -10

3. $5 \times t =$

$$5 \times t = 5t$$

Write the number first, then the letter.

Ans: (A) $5t$

4. The product of 17 and c is

Multiply: $17 \times c = 17c$

Ans: (C) $17c$

5. The symbolic form of 'divide x by 5 ' is

x divided by 5 is $\frac{x}{5}$

Ans: (B) $\frac{x}{5}$

6. The symbolic form of '30 more than m ' is

30 more than m : add 30 to m .

$$m + 30$$

Ans: (B) $m + 30$

7. The symbolic form of '9 less than half of a ' is

Half of a is $\frac{a}{2}$.

9 less than it: take away 9.

$$\frac{a}{2} - 9$$

Ans: (C) $\frac{a}{2} - 9$

8. The symbolic form of '10 more than half of y ' is

Half of y is $\frac{y}{2}$.

10 more than it: add 10.

$$\frac{y}{2} + 10$$

Ans: (B) $\frac{y}{2} + 10$

9. $0 \times p =$

Rule: $0 \times a = 0$

$$0 \times p = 0$$

Ans: (A) 0

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

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

$$\frac{pq}{1} = pq$$

Ans: (C) pq

11. Which of $\frac{11a}{t}$, $-15bc$, 14 and $8a - t$ is not a term?

A term is made by multiplication (or) division only.

$8a - t$ joins two terms with a $-$ sign, so it is not a term.

Ans: (D) $8a - t$

12. The factors of $-9pqt$ are

$$-9pqt = -9 \times p \times q \times t$$

So the factors are $-9, p, q, t$ (the sign stays with the number).

Ans: (B) $-9, p, q, t$

13. Which of the following is not a way of writing 72 as a product of two factors?

$$4 \times 18 = 72, 6 \times 12 = 72, 2 \times 36 = 72$$

$$5 \times 14 = 70 \neq 72$$

Ans: (B) 5×14

14. The coefficient of m in $8mnq$ is

$$8mnq = 8nq \times m$$

So the coefficient of m is $8nq$.

Ans: (A) $8nq$

15. The coefficient of mn in $-18mn$ is

$$-18mn = -18 \times mn$$

So the coefficient of mn is -18 .

Ans: (A) -18

16. The coefficient of mp in $\frac{mp}{10}$ is

$$\frac{mp}{10} = \frac{1}{10} \times mp$$

So the coefficient of mp is $\frac{1}{10}$.

Ans: (D) $\frac{1}{10}$

17. The coefficient of t in $-\frac{t}{7}$ is

$$-\frac{t}{7} = -\frac{1}{7} \times t$$

So the coefficient of t is $-\frac{1}{7}$.

Ans: (C) $-\frac{1}{7}$

18. Terms which contain the same literal factors are called

Same literal factors: like (or) similar terms, e.g. $4pq$ and $-9pq$.

Ans: (C) like terms

19. Which of the following is not a like term of $10pqt$?

Like terms have the same literal factors pqt .

$10pqt$ has literal factors pqt , $-5nqt$ has literal factors nqt : different, so unlike terms.

Ans: (D) $-5nqt$

20. The sum of $4mp$ and $13mp$ is

$$4mp + 13mp = (4 + 13)mp$$

$$= 17mp$$

Ans: (B) $17mp$

21. $7a + 12a + 15a =$

$$7a + 12a + 15a = (7 + 12 + 15)a$$

$$= 34a$$

Ans: (A) $34a$

22. $19y + 8 + 5y + 6 =$

$$19y + 8 + 5y + 6 = (19y + 5y) + (8 + 6)$$

$$= (19 + 5)y + (8 + 6)$$

$$= 24y + 14$$

Ans: (D) $24y + 14$

23. $10c - 14c =$

$$10c - 14c = (10 - 14)c = -4c$$

Signs different: subtract and keep the sign of the bigger: $10 - 14 = -4$

Ans: (D) $-4c$

24. $-7q + 9q =$

$$-7q + 9q = (-7 + 9)q = 2q$$

Signs different: subtract and keep the sign of the bigger: $-7 + 9 = 2$

Ans: (C) $2q$

25. $17b + 8 - 18b + 5 =$

$$17b + 8 - 18b + 5 = (17b - 18b) + (8 + 5)$$

$$= (17 - 18)b + (8 + 5)$$

$$= -b + 13$$

Ans: (A) $-b + 13$
