

EDUSAMBAM ASSESSMENT SERIES

Algebra & Algebraic Equations

PRINTABLE PRACTICE WORKSHEET

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Candidate Name:		Roll No.:	
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Subject	Mathematics (Maths)	Topic	Algebra & Algebraic Equations	Total Marks	100
Total Questions	45	Time Allowed	1 Hour (60 minutes)	Version	A

GENERAL INSTRUCTIONS

1. Read each question carefully before answering.
2. For Section A and Section B, mark one answer only.
3. For Sections C and E, write your answer clearly in the space provided.
4. For Section D, write the correct letter from Column B against each item in Column A.
5. Do not use correction fluid. Keep all answers clear and legible.
6. This worksheet is prepared from the EDUSAMBAM practice assessment supplied for this paper.

PAPER PATTERN

Section	Questions	Marks Each	Total
Section A — Multiple Choice	15	2	30
Section B — True / False	10	2	20
Section C — Fill in the Blank	10	2	20
Section D — Column Matching	5 pairs	2	10
Section E — Short Answer	5	4	20
Total	45	—	100

Section A — Multiple Choice

30 marks

1. In algebra, a symbol that stands for an unknown or changing value is called a:

Basic • 2 pts

A. Constant

B. Variable

C. Coefficient

D. Operator

Answer: ☐A ☐B ☐C ☐D2. In the expression $5x + 3$, what is the coefficient of x ?

Basic • 2 pts

A. 3

B. 5

C. x

D. 8

Answer: ☐A ☐B ☐C ☐D3. In the expression $7y$, the number 7 is called the:

Basic • 2 pts

A. Variable

B. Constant

C. Coefficient

D. Exponent

Answer: ☐A ☐B ☐C ☐D4. Which of these is a constant term in the expression $4a + 9$?

Basic • 2 pts

A. 4

B. a C. $4a$

D. 9

Answer: ☐A ☐B ☐C ☐D5. What is the value of $3x$ when $x = 4$?

Intermediate • 2 pts

A. 7

B. 12

C. 34

D. 43

Answer: ☐A ☐B ☐C ☐D

6. Simplify: $5x + 3x$

A. $8x$

B. $15x$

C. $8x^2$

D. $2x$

Answer: ☐A ☐B ☐C ☐D

7. Simplify: $7a - 2a + a$

A. $4a$

B. $6a$

C. $10a$

D. $5a$

Answer: ☐A ☐B ☐C ☐D

8. What is $2(x + 3)$ expanded?

A. $2x + 3$

B. $2x + 6$

C. $x + 6$

D. $2x + 5$

Answer: ☐A ☐B ☐C ☐D

9. An equation is different from an expression because an equation:

A. Has variables

B. Has numbers

C. Contains an equals sign

D. Has no solution

Answer: ☐A ☐B ☐C ☐D

10. Solve for x: $x + 5 = 12$

A. 5

B. 7

C. 12

D. 17

Answer: ☐A ☐B ☐C ☐D

11. Solve for x: $x - 4 = 10$

A. 6

B. 10

C. 14

D. 40

Answer: ☐A ☐B ☐C ☐D

12. Solve for x: $3x = 21$

A. 3

B. 7

C. 18

D. 24

Answer: ☐A ☐B ☐C ☐D

13. Solve for x: $x/4 = 6$

A. 1.5

B. 10

C. 24

D. 2

Answer: ☐A ☐B ☐C ☐D

14. To keep an equation balanced, whatever you do to one side you must:

A. Do to the variable only

B. Do to the other side too

C. Ignore on the other side

D. Multiply by zero

Answer: ☐A ☐B ☐C ☐D

15. Solve for x: $2x + 3 = 11$

A. 3

B. 4

C. 7

D. 14

Answer: ☐A ☐B ☐C ☐D

Section B — True / False

20 marks

16. A variable always represents exactly the same number in every algebra problem you ever solve.

A. True ☐

B. False ☐

Basic · 2 pts

17. In the term $8m$, 8 is the coefficient and m is the variable.

A. True ☐

B. False ☐

Basic · 2 pts

18. The expression $5 + 2$ is an example of an algebraic expression with a variable.

A. True ☐

B. False ☐

Basic · 2 pts

19. Like terms have the same variable raised to the same power.

A. True ☐

B. False ☐

Basic · 2 pts

20. $3x$ and $3x^2$ are like terms.

A. True ☐

B. False ☐

Intermediate · 2 pts

21. An equation always contains an equals sign.

A. True ☐

B. False ☐

Intermediate · 2 pts

22. Solving an equation means finding the value of the variable that makes it true.
A. True ☐ **B.** False ☐

23. If $x + 6 = 10$, then $x = 4$.
A. True ☐ **B.** False ☐

24. You can add a number to one side of an equation without changing the other side.
A. True ☐ **B.** False ☐

25. The solution to $5x = 0$ is $x = 0$.
A. True ☐ **B.** False ☐

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Section C — Fill in the Blank

20 marks

26. In $6z$, the letter z is called the _____.
Answer: _____

27. Terms that have identical variable parts are called _____ terms.
Answer: _____

28. A term with no variable attached, like 9 or -2 , is called a _____.
Answer: _____

29. $3a + 5a$ simplifies to _____.
Answer: _____

30. Multiplying out brackets, such as turning $3(x + 2)$ into $3x + 6$, is called _____.
Answer: _____

31. The value that makes an equation true is called the _____ of the equation.
Answer: _____

32. If $x - 7 = 3$, then $x =$ _____.
Answer: _____

33. If $4x = 20$, then $x =$ _____.
Answer: _____

34. To solve $x + 9 = 15$, you _____ 9 from both sides.
Answer: _____

35. To solve $x/5 = 6$, you _____ both sides by 5.
Answer: _____

Basic · 2 pts

Basic · 2 pts

Basic · 2 pts

Basic · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Section D — Column Matching

10 marks

36-40. Match each term to its correct definition.

Column A	Answer	Column B
Variable	_____	A. The number multiplied by a variable in a term
Coefficient	_____	B. A fixed number with no variable attached
Constant	_____	C. A mathematical statement that says two expressions are equal
Expression	_____	D. A symbol, usually a letter, that stands for an unknown value
Equation	_____	E. A combination of numbers, variables and operators with no equals sign

Section E — Short Answer

20 marks

41. Explain what a variable is and give one example.

42. Explain the difference between an expression and an equation.

Advanced · 4 pts

Advanced · 4 pts

43. Explain what it means to simplify an algebraic expression, using $4x + 3x$ as an example.

Advanced · 4 pts

44. Describe the steps you would take to solve the equation $x + 8 = 20$.

Advanced · 4 pts

45. Explain why it's important to do the same operation to both sides of an equation when solving it.

Advanced · 4 pts

Candidate Signature: _____

Invigilator Signature: _____

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Marks Obtained: _____ / 100

Result / Grade: _____

Checked By: _____

Date Checked: _____

EDUSAMBAM ASSESSMENT SERIES

Algebra & Algebraic Equations — Answer Key

Teacher reference: equivalent grammatically correct wording is acceptable for open-ended items when the meaning is preserved.

Section A — Multiple Choice

1. B

2. B

3. C

4. D

5. B

6. A

7. B

8. B
9. C

10. B

11. C

12. B

13. C

14. B

15. B

Section B — True / False

16. False

17. True

18. False

19. True

20. False
21. True

22. True

23. True

24. False

25. True

Section C — Fill in the Blank

26. variable

27. like

28. constant

29. 8a

30. expanding
31. solution

32. 10

33. 5

34. subtract

35. multiply

Section D — Column Matching

36. Variable — D

37. Coefficient — A

38. Constant — B
39. Expression — E

40. Equation — C

Section E — Short Answer (Model Answers)

41. symbol; unknown; letter; stands for

42. equals sign; no equals; expression; equation

43. combine; like terms; 7x; add

44. subtract 8; both sides; 12

45. balance; equal; both sides