

YEAR 8 MATHEMATICS SELF ASSESSMENT TEST



“Test yourself or your child at home, and reach out to us only if you need extra help. Otherwise, give yourself or your child a pat on the back and best of luck for the future!”

Instructions: Answer all questions. All questions are multiple-choice. Some questions require calculations. Calculators may be used where appropriate.

Number & Algebra

1. Simplify: $5x + 3x - 2x$

- A) $6x$
 - B) $8x$
 - C) $10x$
 - D) $5x^2$
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4. Factorise: $x^2 + 7x + 12$

- A) $(x + 3)(x + 4)$
 - B) $(x + 2)(x + 6)$
 - C) $(x + 1)(x + 12)$
 - D) $(x + 4)(x + 5)$
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2. Solve: $3x - 7 = 11$

- A) 4
 - B) 5
 - C) 6
 - D) 7
-

5. Solve: $2y + 9 = 19$

- A) 4
 - B) 5
 - C) 6
 - D) 7
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3. Expand: $(x + 3)(x + 5)$

- A) $x^2 + 8x + 15$
 - B) $x^2 + 15x + 8$
 - C) $x^2 + 15$
 - D) $x^2 + 8x$
-

6. Which of the following is a prime number?

- A) 21
 - B) 29
 - C) 33
 - D) 35
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7. Simplify: $\frac{3}{4} + \frac{2}{4}$

A) $\frac{1}{2}$

B) 1

C) $\frac{5}{4}$

D) $\frac{3}{2}$

8. What is 15% of 240?

A) 24

B) 30

C) 36

D) 40

9. Convert 0.625 to a fraction.

A) $\frac{5}{8}$

B) $\frac{3}{5}$

C) $\frac{1}{2}$

D) $\frac{7}{8}$

10. Which of the following is divisible by 9?

A) 182

B) 243

C) 356

D) 472

Geometry & Measurement

11. The area of a rectangle with length 15 cm and width 6 cm is:

A) 21 cm^2

B) 90 cm^2

C) 36 cm^2

D) 80 cm^2

12. The perimeter of a square with side 12 cm is:

A) 36 cm

B) 48 cm

C) 54 cm

D) 60 cm

13. A triangle has angles 50° and 60° . Find the third angle.

A) 60°

B) 70°

C) 80°

D) 90°

14. Convert 3.2 m to cm.

- A) 32 cm
 - B) 320 cm
 - C) 3200 cm
 - D) 0.32 cm
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15. The circumference of a circle with radius 7 cm ($\pi \approx 3.14$) is:

- A) 21.98 cm
 - B) 43.96 cm
 - C) 49 cm
 - D) 28 cm
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16. The volume of a cube with side 5 cm is:

- A) 25 cm³
 - B) 50 cm³
 - C) 125 cm³
 - D) 150 cm³
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17. Which shape has exactly one pair of parallel sides?

- A) Square
- B) Rectangle

C) Trapezium

D) Parallelogram

18. The sum of interior angles of a pentagon is:

- A) 360°
 - B) 540°
 - C) 720°
 - D) 900°
-

19. The missing angle in a quadrilateral with angles 90°, 85°, 110° is:

- A) 75°
 - B) 80°
 - C) 85°
 - D) 95°
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20. The distance around a circle is called:

- A) Diameter
 - B) Radius
 - C) Circumference
 - D) Chord
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Statistics & Probability

21. The mean of {4, 6, 8, 10, 12} is:

- A) 6
- B) 8
- C) 9
- D) 10

22. The mode of {5, 7, 9, 7, 12, 7} is:

- A) 5
- B) 7
- C) 9
- D) 12

23. The median of {3, 7, 9, 10, 12} is:

- A) 7
- B) 9
- C) 10
- D) 12

24. A die is rolled. Probability of rolling a number less than 3 is:

- A) $\frac{1}{6}$
- B) $\frac{1}{3}$
- C) $\frac{1}{2}$
- D) $\frac{2}{3}$

25. A bag has 5 red and 3 blue marbles. Probability of picking a red marble is:

- A) $\frac{3}{8}$
- B) $\frac{5}{8}$
- C) $\frac{1}{2}$
- D) $\frac{5}{3}$

26. A spinner has 6 equal sections. Probability of landing on "1" is:

- A) $\frac{1}{3}$
- B) $\frac{1}{6}$
- C) $\frac{1}{2}$
- D) $\frac{1}{4}$

27. A class has 20 students. 12 are girls. Probability of picking a girl is:

- A) $\frac{1}{2}$
- B) $\frac{3}{5}$
- C) $\frac{2}{3}$

D) $\frac{1}{3}$

28. The range of {15, 22, 28, 35, 40} is:

A) 15

B) 20

C) 25

D) 35

29. Which graph is best to show percentages?

A) Bar graph

B) Line graph

C) Pie chart

D) Histogram

30. A student scored 12, 15, 18, 20. The mean is:

A) 15

B) 16

C) 17

D) 18

Advanced / Mixed Problems

31. Solve: $5x - 7 = 18$

A) 5

B) 6

C) 7

D) 8

32. Expand: $(2x + 3)(x + 4)$

A) $2x^2 + 11x + 12$

B) $2x^2 + 8x + 12$

C) $2x^2 + 7x + 12$

D) $2x^2 + 12x + 7$

33. Factorise: $x^2 + 9x + 20$

A) $(x + 4)(x + 5)$

B) $(x + 2)(x + 10)$

C) $(x + 5)(x + 6)$

D) $(x + 1)(x + 20)$

34. Evaluate: $3^3 + 2^4$

A) 17

B) 27

C) 35

D) 43

35. Solve: $2(x - 3) = 10$

- A) 5
 - B) 7
 - C) 8
 - D) 10
-

36. A rectangle has length 12 cm and width 5 cm. Find perimeter.

- A) 30 cm
 - B) 34 cm
 - C) 35 cm
 - D) 40 cm
-

37. A book costs \$15. Buy 4 books.
Total cost:

- A) \$50
 - B) \$55
 - C) \$60
 - D) \$65
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38. A train travels 90 km in 1.5 hours. Speed is:

- A) 50 km/h

- B) 55 km/h
 - C) 60 km/h
 - D) 65 km/h
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39. Convert 3.5 hours to minutes.

- A) 180
 - B) 200
 - C) 210
 - D) 220
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40. Convert 4500 g to kg.

- A) 4.5 kg
 - B) 45 kg
 - C) 0.45 kg
 - D) 450 kg
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41. Which of these numbers is a perfect square?

- A) 48
 - B) 49
 - C) 50
 - D) 51
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42. Simplify: $18/24$

- A) $3/4$
- B) $4/3$
- C) $6/8$
- D) $2/3$

43. Reciprocal of $5/8$ is:

- A) $5/8$
- B) $8/5$
- C) $1/5$
- D) $3/5$

44. Which decimal is largest?

- A) 0.6
- B) 0.65
- C) 0.625
- D) 0.64

45. Solve: $x/5 = 7$

- A) 30
- B) 32
- C) 35
- D) 40

46. 20% of 150 is:

- A) 25
- B) 30
- C) 35
- D) 40

47. $15 \div 0.5 =$

- A) 7.5
- B) 15
- C) 25
- D) 30

48. If 3 pencils cost \$1.50, cost of 10 pencils is:

- A) \$4.50
- B) \$5
- C) \$5.50
- D) \$6

49. Simplify: $2x + 3x - x$

- A) $2x$
- B) $3x$
- C) $4x$

D) $5x$

50. Sequence: 2, 4, 8, 16, __, 64

A) 20

B) 24

C) 32

D) 40



Nexa Tutoring

Foundations for future success