

Full Practice Exam — Set 3

Mathematics · Class 6 · Full Syllabus Practice Exam

TIME 60 minutes	QUESTIONS 50	TOTAL MARKS 60	MAX. SCORE ___ / 60
--------------------	-----------------	-------------------	------------------------

Name: _____ Class/Sec: _____ Date: _____

INSTRUCTIONS

- There are **50 questions** in this paper. All questions are compulsory.
- Each question has four options (A), (B), (C) and (D). Exactly **one** option is correct.
- Questions 1–45 carry **1 mark** each. Questions 46–50 (Achievers Section) carry **3 marks** each.
- There is no negative marking. Use of a calculator is **not** allowed.
- Rough work may be done in the space at the side of each page.

Section 1 — Logical Reasoning

Q1–Q10 · 1 mark each

- What comes next in the series? 3, 8, 15, 24, ____
 (A) 33 (B) 35
 (C) 37 (D) 39
- Find the **odd one out**: 8, 27, 64, 90
 (A) 8 (B) 27
 (C) 64 (D) 90
- In a certain code, DOG is written as GRJ (each letter is shifted 3 places forward in the alphabet). How is CAT written in the same code?
 (A) EDW (B) FDW
 (C) FDX (D) GDW
- Study the pattern of shapes in the figure. Which shape comes next?



A repeating sequence of triangle, square and pentagon shapes, with the tenth shape missing.

- (A) Square (B) Triangle
 (C) Pentagon (D) Circle
- Introducing a boy, a woman said, 'His father is the only son of my father.' How is the woman related to the boy?
 (A) Mother (B) Grandmother
 (C) Sister (D) Aunt
- In a row of 35 plants, Meena's plant is 9th from the left end. What is its position from the right end?
 (A) 26th (B) 27th
 (C) 28th (D) 25th

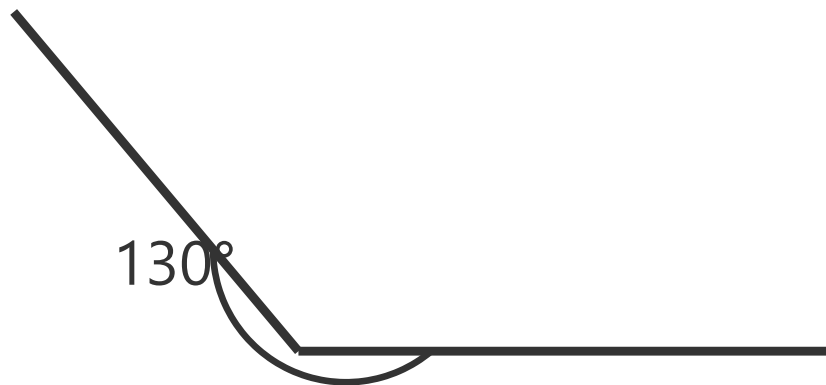
7. A boy walks 5 km west, then 12 km north. How far is he from his starting point?
- (A) 60 km (B) 17 km
(C) 7 km (D) 13 km
8. Which of these words looks the **same** when reflected left-to-right in a mirror?
- (A) TOOT (B) BOOT
(C) FOOT (D) ROOT
9. $8 : 65 :: 10 : \underline{\hspace{2cm}}$
- (A) 99 (B) 100
(C) 101 (D) 111
10. If 3 April is a Friday, what day of the week is 25 April?
- (A) Thursday (B) Saturday
(C) Friday (D) Sunday

Section 2 — Mathematical Reasoning

Q11–Q28 · 1 mark each

11. The successor of the largest 5-digit number is _____.
(A) 100000 (B) 99998
(C) 100001 (D) 999999
12. The prime factorisation of 210 is _____.
(A) $2 \times 3 \times 5^2 \times 7$ (B) $2^2 \times 3 \times 5 \times 7$
(C) $2 \times 3 \times 5 \times 7$ (D) $2 \times 3^2 \times 5 \times 7$
13. $(-18) + 11 = \underline{\hspace{2cm}}$
(A) 7 (B) -29
(C) 29 (D) -7
14. $(-9) \times (-6) = \underline{\hspace{2cm}}$
(A) 54 (B) -15
(C) 15 (D) -54
15. $\frac{21}{28}$ in simplest form is _____.
(A) $\frac{3}{7}$ (B) $\frac{3}{4}$
(C) $\frac{4}{7}$ (D) $\frac{7}{12}$
16. $0.026 \times 1000 = \underline{\hspace{2cm}}$
(A) 2.6 (B) 0.26
(C) 26 (D) 260
17. The solution of $6x - 11 = 25$ is $x = \underline{\hspace{2cm}}$.
(A) 5 (B) 7
(C) 6 (D) 8
18. The ratio 48 : 60 in simplest form is _____.
(A) 3 : 4 (B) 5 : 6
(C) 8 : 9 (D) 4 : 5

19. The figure shows an angle formed at a vertex. What type of angle is shown?



Two rays meeting at a vertex, forming an angle of 130 degrees between them.

- (A) Obtuse
(B) Reflex
(C) Right
(D) Acute
20. The area of a triangle with base 16 cm and height 9 cm is _____.
(A) 144 cm^2
(B) 72 cm^2
(C) 36 cm^2
(D) 50 cm^2
21. The median of 21, 9, 14, 30 and 17 is _____.
(A) 14
(B) 21
(C) 17
(D) 30
22. Which of these is a prime number?
(A) 39
(B) 51
(C) 85
(D) 67
23. The LCM of 15 and 20 is _____.
(A) 60
(B) 100
(C) 300
(D) 5
24. $6\frac{2}{7}$ written as an improper fraction is _____.
(A) $\frac{42}{7}$
(B) $\frac{8}{7}$
(C) $\frac{44}{7}$
(D) $\frac{48}{7}$
25. How many lines of symmetry does a square have?
(A) 2
(B) 6
(C) 4
(D) 8

26. The multiplicative inverse (reciprocal) of $\frac{-7}{9}$ is _____.

(A) $\frac{9}{7}$

(B) $\frac{7}{9}$

(C) $\frac{-7}{9}$

(D) $\frac{-9}{7}$

27. 'Four more than thrice a number x' is written as _____.

(A) $3x+4$

(B) $4x+3$

(C) $3x-4$

(D) $4-3x$

28. A number is divisible by 9 if _____.

(A) the last digit is divisible by 9

(B) the sum of its digits is divisible by 9

(C) it is an even number

(D) the number is divisible by 3

Section 3 — Everyday Mathematics

Q29–Q45 · 1 mark each

29. A wholesaler sold 4,567 kg of sugar in one month and 3,829 kg the next month. How much sugar did he sell in the two months together?

(A) 8,496 kg

(B) 8,296 kg

(C) 8,396 kg

(D) 8,096 kg

30. A packing machine seals 875 packets an hour. How many packets will it seal in 5 days if it runs for 7 hours a day?

(A) 29,750

(B) 6,125

(C) 31,500

(D) 30,625

31. The temperature inside a freezer was -9°C . It was then reset to a temperature 14°C higher. What is the new temperature?

(A) 5°C

(B) 23°C

(C) -23°C

(D) -5°C

32. In a contest, 6 marks are given for a correct answer and -3 for a wrong one. Farah answered 14 questions correctly and 5 wrongly. What was her total score?

(A) 99

(B) 84

(C) 54

(D) 69

33. A jug holds $6\frac{3}{4}$ litres of syrup. It is poured equally into bottles of $\frac{3}{8}$ litre each. How many bottles are filled?

(A) 18

(B) 16

(C) 20

(D) 24

34. The cost of 8 identical notebooks is ₹392. What is the cost of 13 such notebooks?

(A) ₹588

(B) ₹637

(C) ₹546

(D) ₹676

35. The ages of a grandfather and grandson are in the ratio $8 : 1$. If the grandson is 9 years old, how old is the grandfather?

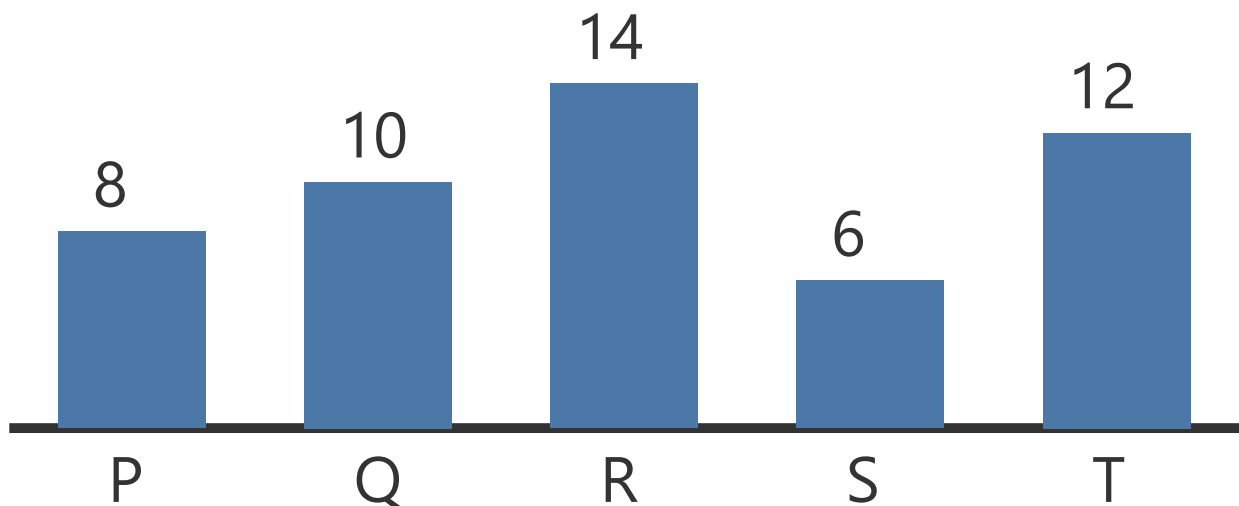
(A) 63 years

(B) 81 years

(C) 72 years

(D) 56 years

36. Three sirens sound at intervals of 9, 12 and 18 minutes. If they sound together at 7:00 a.m., when will they next sound together?
- (A) 7:24 a.m. (B) 7:30 a.m.
(C) 7:45 a.m. (D) 7:36 a.m.
37. A rectangular plot 54 m by 30 m is to be fenced with 4 rounds of wire. What total length of wire is needed?
- (A) 672 m (B) 336 m
(C) 504 m (D) 1,620 m
38. A wire of length 68 cm is bent to form a square. What is the area of the square?
- (A) 1,156 cm² (B) 289 cm²
(C) 68 cm² (D) 17 cm²
39. The bar chart shows the number of books read by five students, P to T, during the summer vacation. What is the mean number of books read?



Number of books read by students P, Q, R, S and T, with the count of each student marked above its bar.

- (A) 8 (B) 12
(C) 10 (D) 14
40. A drone is flying at a height of 180 m above the ground. It descends 65 m and then rises 40 m. What is its final height?
- (A) 105 m above the ground (B) 285 m above the ground
(C) 155 m above the ground (D) 155 m below the ground
41. Naveen spent $\frac{1}{3}$ of his savings on a bicycle and $\frac{2}{9}$ on a helmet. What fraction of his savings is left?
- (A) $\frac{7}{9}$ (B) $\frac{5}{9}$
(C) $\frac{2}{9}$ (D) $\frac{4}{9}$

42. ₹3,600 is divided between two shopkeepers in the ratio 4 : 5. How much does the shopkeeper with the larger share get?
- (A) ₹2,000 (B) ₹1,600
(C) ₹1,800 (D) ₹2,400
43. Two angles of a triangle measure 95° and 40° . What kind of triangle is it?
- (A) Right-angled (B) Obtuse-angled
(C) Acute-angled (D) Equilateral
44. A train covers 210 km in 3 hours. At the same speed, how long will it take to cover 350 km?
- (A) 4 hours (B) 6 hours
(C) 5 hours (D) 7 hours
45. A florist has 108 roses and 144 jasmines. She wants to make identical garlands using all the flowers with none left over. What is the greatest number of garlands she can make?
- (A) 36 (B) 24
(C) 12 (D) 48

Achievers Section

Q46–Q50 · 3 marks each

46. Consider the following statements.
- (i) The HCF of two numbers is never greater than their LCM.
(ii) Every prime number greater than 2 is odd.
(iii) The sum of a prime number and an even number is always odd.
- Which of the statements is/are correct?
- (A) (i) and (ii) only (B) (ii) and (iii) only
(C) (i) and (iii) only (D) All three
47. What is the smallest number which, when divided by 10, 14 or 21, leaves a remainder of 4 each time?
- (A) 210 (B) 214
(C) 217 (D) 424
48. The present ages of Kabir and Divya are in the ratio 5 : 3. Eight years ago, the ratio of their ages was 3 : 1. What is Kabir's present age?
- (A) 15 years (B) 25 years
(C) 12 years (D) 20 years
49. Study the figure showing two columns. Which option correctly matches every expression in Column A with its value in Column B?

Column A	Column B
(P) $3^3 \times 2^2$	(1) 72
(Q) HCF of 32 and 48	(2) 16
(R) LCM of 6, 8 and 9	(3) 31
(S) $2^2 + 3^3$	(4) 108

P, Q, R and S are expressions to be matched with the values 1 to 4 in Column B.

- (A) P-4, Q-2, R-1, S-3 (B) P-4, Q-1, R-2, S-3
(C) P-2, Q-4, R-1, S-3 (D) P-1, Q-4, R-2, S-3

50. Assertion (A): The number 1 is neither a prime number nor a composite number.

Reason (R): 1 has only one factor, which is itself.

(A) The Assertion is false, but the Reason is true.

(B) Both the Assertion and the Reason are true, and the Reason correctly explains the Assertion.

(C) The Assertion is true, but the Reason is false.

(D) Both the Assertion and the Reason are true, but the Reason does not correctly explain the Assertion.

Answer Key

1	B	2	D	3	B	4	B	5	D
6	B	7	D	8	A	9	C	10	B
11	A	12	C	13	D	14	A	15	B
16	C	17	C	18	D	19	A	20	B
21	C	22	D	23	A	24	C	25	C
26	D	27	A	28	B	29	C	30	D
31	A	32	D	33	A	34	B	35	C
36	D	37	A	38	B	39	C	40	C
41	D	42	A	43	B	44	C	45	A
46	A	47	B	48	D	49	A	50	B

Solutions

1. Answer: (B) 35

The difference between consecutive terms increases by 2 each time: $8-3=5$, $15-8=7$, $24-15=9$. The next difference is 11, so the next term is $24+11 = 35$.

2. Answer: (D) 90

$8=2^3$, $27=3^3$ and $64=4^3$ are all perfect cubes. **90** is not a perfect cube, so it is the odd one out.

3. Answer: (B) FDW

$D+3=G$, $O+3=R$, $G+3=J$, confirming the shift. Applying the same shift to CAT: $C+3=F$, $A+3=D$, $T+3=W$, giving **FDW**.

4. Answer: (B) Triangle

The shapes repeat in a cycle of three: triangle, square, pentagon. The ninth shape shown completes the third full cycle, so the tenth shape returns to the start of the cycle and is a **triangle**.

5. Answer: (D) Aunt

The only son of the woman's father is her one brother. The boy's father is this brother, so the boy is the son of the woman's brother — the woman is his **aunt**.

6. Answer: (B) 27th

Position from the right end = total – position from left end + 1 = $35 - 9 + 1 = 27\text{th}$.

7. Answer: (D) 13 km

The two legs of the path meet at a right angle.

Distance = $\sqrt{5^2+12^2} = \sqrt{25+144} = \sqrt{169} = 13 \text{ km}$.

8. Answer: (A) TOOT

A word looks the same in a mirror only if each of its letters is individually symmetric left-to-right and the word reads the same when the letter order is reversed. **TOOT** is made of T, O, O and T — each symmetric left-to-right — and reversing the letters gives the same word back. The letters in the other words are not all symmetric in this way.

9. Answer: (C) 101

The rule is: square the first number and add 1. $8^2+1=65$. So $10^2+1 = 101$.

10. Answer: (B) Saturday

25 April is 22 days after 3 April. Since $22 = 3 \times 7 + 1$, this is 3 full weeks plus 1 extra day.

Friday + 1 day = **Saturday**.

11. Answer: (A) 100000

The largest 5-digit number is 99,999. Its successor is $99,999+1 = 100000$.

12. Answer: (C) $2 \times 3 \times 5 \times 7$

$210 = 2 \times 3 \times 5 \times 7$, since each of the prime factors 2, 3, 5 and 7 appears exactly once: **$2 \times 3 \times 5 \times 7$** .

13. Answer: (D) -7

$18 - 11 = 7$, and 18 is the larger number with a minus sign, so the answer is **-7**.

14. Answer: (A) 54

The product of two negative numbers is positive.

$(-9) \times (-6) = 54$.

15. Answer: (B) $\frac{3}{4}$

The HCF of 21 and 28 is 7. $\frac{21}{28} = \frac{3}{4}$.

16. Answer: (C) 26

Move the decimal point three places right: $0.026 \rightarrow 26$.

17. Answer: (C) 6

$$6x = 36, \text{ so } x = \mathbf{6}.$$

18. Answer: (D) 4 : 5

The HCF of 48 and 60 is 12. $48 \div 12 = 4$, $60 \div 12 = 5$, giving **4 : 5**.

19. Answer: (A) Obtuse

An angle greater than 90° but less than 180° is called an obtuse angle. The angle shown measures 130° , so it is **Obtuse**.

20. Answer: (B) 72 cm^2

$$\text{Area} = \frac{1}{2} \times \text{base} \times \text{height} = \frac{1}{2} \times 16 \times 9 = \mathbf{72 \text{ cm}^2}.$$

21. Answer: (C) 17

Arranging in order: 9, 14, 17, 21, 30. The middle value is **17**.

22. Answer: (D) 67

39, 51 and 85 are composite. **67** is prime.

23. Answer: (A) 60

Multiples of 15: 15, 30, 45, 60... Multiples of 20: 20, 40, 60... LCM = **60**.

24. Answer: (C) $\frac{44}{7}$

$$6 \times 7 + 2 = 44, \text{ so } 6\frac{2}{7} = \mathbf{\frac{44}{7}}.$$

25. Answer: (C) 4

A square has **4** lines of symmetry.

26. Answer: (D) $-\frac{9}{7}$

The reciprocal of a fraction is obtained by inverting it, keeping the sign unchanged. The reciprocal of $\frac{-7}{9}$ is $\mathbf{-\frac{9}{7}}$.

27. Answer: (A) $3x+4$

Thrice the number is $3x$; four more than that is **$3x+4$** .

28. Answer: (B) the sum of its digits is divisible by 9

A number is divisible by 9 exactly when **the sum of its digits is divisible by 9**. Being divisible by 3 alone is not enough, since, for example, 12 is divisible by 3 but not by 9.

29. Answer: (C) 8,396 kg

$$4,567 + 3,829 = \mathbf{8,396 \text{ kg}}.$$

30. Answer: (D) 30,625

$875 \times 7 = 6,125$ packets per day. In 5 days: $6,125 \times 5 = \mathbf{30,625}$ packets.

31. Answer: (A) 5°C

$$-9 + 14 = \mathbf{5^\circ\text{C}}.$$

32. Answer: (D) 69

$$14 \times 6 = 84, 5 \times (-3) = -15. \text{ Total} = 84 - 15 = \mathbf{69}.$$

33. Answer: (A) 18

$$6\frac{3}{4} = \frac{27}{4}. \text{ Number of bottles} = \frac{27}{4} \div \frac{3}{8} = \frac{27}{4} \times \frac{8}{3} = \mathbf{18}.$$

34. Answer: (B) ₹637

$$\text{Cost of 1 notebook} = 392 \div 8 = ₹49. \text{ Cost of 13 notebooks} = 13 \times 49 = \mathbf{₹637}.$$

35. Answer: (C) 72 years

1 part = 9 years (the grandson's age). Grandfather's age = $8 \times 9 = 72$ years.

36. Answer: (D) 7:36 a.m.

LCM of 9, 12 and 18 = 36 minutes. They will next sound together at **7:36 a.m.**

37. Answer: (A) 672 m

Perimeter = $2 \times (54 + 30) = 168$ m. For 4 rounds: $4 \times 168 = 672$ m.

38. Answer: (B) 289 cm^2

Side = $68 \div 4 = 17$ cm. Area = $17 \times 17 = 289 \text{ cm}^2$.

39. Answer: (C) 10

Mean = $(8 + 10 + 14 + 6 + 12) \div 5 = 50 \div 5 = 10$.

40. Answer: (C) 155 m above the ground

$180 - 65 + 40 = 155$ m above the ground.

41. Answer: (D) $\frac{4}{9}$

$\frac{1}{3} = \frac{3}{9}$, $\frac{2}{9}$ stays as is. Spent = $\frac{3}{9} + \frac{2}{9} = \frac{5}{9}$. Left = $1 - \frac{5}{9} = \frac{4}{9}$.

42. Answer: (A) ₹2,000

Total parts = $4 + 5 = 9$. 1 part = $3,600 \div 9 = ₹400$. Larger share = $5 \times 400 = ₹2,000$.

43. Answer: (B) Obtuse-angled

Third angle = $180^\circ - 95^\circ - 40^\circ = 45^\circ$. Since one angle, 95° , is greater than 90° , the triangle is **obtuse-angled**.

44. Answer: (C) 5 hours

Speed = $210 \div 3 = 70$ km/h. Time = $350 \div 70 = 5$ hours.

45. Answer: (A) 36

HCF of 108 and 144 = 36. She can make **36** garlands.

46. Answer: (A) (i) and (ii) only

Statement (i) is true, since the HCF of two numbers is always at most their LCM. Statement (ii) is true, since 2 is the only even prime number, so every other prime is odd. Statement (iii) is false: taking the prime number 2 and the even number 4 gives $2 + 4 = 6$, which is even, not odd. Hence **(i) and (ii)** are correct.

47. Answer: (B) 214

LCM of 10, 14 and 21 = 210. Required number = $210 + 4 = 214$.

48. Answer: (D) 20 years

Let their present ages be $5x$ and $3x$. Eight years ago their ages were $(5x - 8)$ and $(3x - 8)$, in the ratio 3 : 1, so $5x - 8 = 3(3x - 8)$. This gives $5x - 8 = 9x - 24$, so $4x = 16$ and $x = 4$. Kabir's present age = $5 \times 4 = 20$ years.

49. Answer: (A) P-4, Q-2, R-1, S-3

$P = 3^3 \times 2^2 = 27 \times 4 = 108$, which matches (4) in Column B. $Q = \text{HCF of } 32 \text{ and } 48 = 16$, which matches (2). $R = \text{LCM of } 6, 8 \text{ and } 9 = 72$, which matches (1). $S = 2^2 + 3^3 = 4 + 27 = 31$, which matches (3). So the correct matching is **P-4, Q-2, R-1, S-3**.

50. Answer: (B) Both the Assertion and the Reason are true, and the Reason correctly explains the Assertion.

A prime number must have exactly two distinct factors and a composite number must have more than two; since 1 has only one factor, itself, it meets neither requirement and is classified as neither prime nor composite — the Assertion is true. This is exactly because 1 has only one factor, so the Reason is true and correctly explains the Assertion.