

Full Practice Exam — Set 1

Mathematics · Class 6 · Full Syllabus Practice Exam

TIME 60 minutes	QUESTIONS 50	TOTAL MARKS 60	MAX. SCORE ___ / 60
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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? 2, 5, 11, 23, ____
 (A) 35 (B) 41
 (C) 47 (D) 53
- Find the **odd one out**: 17, 23, 31, 51
 (A) 17 (B) 23
 (C) 31 (D) 51
- What comes next in the series? ZA, YB, XC, ____
 (A) WD (B) VD
 (C) WE (D) VE
- In a certain code, MOTHER is written as 13-15-20-8-5-18. How is FATHER written in the same code?
 (A) 5-1-20-8-5-18 (B) 6-1-19-8-5-18
 (C) 6-2-20-8-5-18 (D) 6-1-20-8-5-18
- Introducing a man, a woman said, 'His mother is the only daughter of my mother.' How is the woman related to the man?
 (A) Mother (B) Sister
 (C) Aunt (D) Grandmother
- In a queue of 40 people, Anil is 14th from the front. What is his position from the back?
 (A) 25th (B) 26th
 (C) 28th (D) 27th
- A person walks 8 km south, then 15 km east. How far is he from his starting point?
 (A) 17 km (B) 7 km
 (C) 23 km (D) 120 km

8. Which of these words looks the **same** when reflected left-to-right in a mirror?

(A) MOM

(B) CAT

(C) FISH

(D) ROAD

9. $5 : 25 :: 9 : \underline{\hspace{1cm}}$

(A) 45

(B) 54

(C) 72

(D) 81

10. If 1 June is a Monday, what day of the week is 24 June?

(A) Sunday

(B) Monday

(C) Tuesday

(D) Wednesday

Section 2 — Mathematical Reasoning

Q11–Q28 · 1 mark each

11. The smallest whole number is _____.

(A) 0

(B) 1

(C) -1

(D) There is none

12. The prime factorisation of 180 is _____.

(A) $2^2 \times 3^2 \times 5$

(B) $2^3 \times 3 \times 5$

(C) $2 \times 3^3 \times 5$

(D) $2^2 \times 3 \times 5^2$

13. $(-12) + 7 = \underline{\hspace{1cm}}$

(A) -19

(B) 19

(C) 5

(D) -5

14. $(-6) \times (-7) = \underline{\hspace{1cm}}$

(A) 42

(B) -42

(C) -13

(D) 13

15. $\frac{18}{24}$ in simplest form is _____.

(A) $\frac{2}{3}$

(B) $\frac{9}{12}$

(C) $\frac{3}{4}$

(D) $\frac{6}{8}$

16. $0.008 \times 100 = \underline{\hspace{1cm}}$

(A) 0.08

(B) 80

(C) 8

(D) 0.8

17. The solution of $4y + 9 = 29$ is $y = \underline{\hspace{1cm}}$.

(A) 4

(B) 5

(C) 9

(D) 20

18. The ratio 20 : 35 in simplest form is _____.

(A) 4 : 7

(B) 2 : 3

(C) 5 : 7

(D) 20 : 35

19. An angle that measures more than 180° but less than 360° is called a _____ angle.

(A) Acute

(B) Reflex

(C) Obtuse

(D) Straight

20. The area of a rectangle 15 m long and 8 m wide is _____.
 (A) 23 m^2 (B) 46 m^2
 (C) 120 m^2 (D) 120 m
21. The mean of 8, 12, 15, 20 and 25 is _____.
 (A) 15 (B) 16
 (C) 18 (D) 80
22. Which of these is a prime number?
 (A) 51 (B) 57
 (C) 61 (D) 91
23. The LCM of 6 and 8 is _____.
 (A) 2 (B) 14
 (C) 24 (D) 48
24. $5\frac{1}{6}$ written as an improper fraction is _____.
 (A) $\frac{30}{6}$ (B) $\frac{6}{31}$
 (C) $\frac{11}{6}$ (D) $\frac{31}{6}$
25. How many lines of symmetry does a regular hexagon have?
 (A) 3 (B) 4
 (C) 6 (D) 12
26. The additive inverse of -23 is _____.
 (A) 23 (B) -23
 (C) 0 (D) $\frac{1}{23}$
27. 'Five less than twice a number n ' is written as _____.
 (A) $2n+5$ (B) $2n-5$
 (C) $5-2n$ (D) $5n-2$
28. A number is divisible by 6 if it is divisible by _____.
 (A) 2 only (B) 3 only
 (C) Both 2 and 3 (D) Either 2 or 3

Section 3 — Everyday Mathematics

Q29–Q45 · 1 mark each

29. A shopkeeper sold 2,478 kg of rice in one month and 3,596 kg the next. How much did he sell in the two months together?
 (A) 6,000 kg (B) 6,200 kg
 (C) 6,100 kg (D) 6,074 kg
30. A machine fills 1,250 bottles an hour. How many bottles will it fill in 3 days if it runs for 8 hours a day?
 (A) 30,000 (B) 20,000
 (C) 10,000 (D) 37,500

- 31.** The temperature at 6 a.m. was -4°C . By noon it had risen by 11°C . What was the temperature at noon?
- (A) -15°C (B) 7°C
(C) -7°C (D) 15°C
- 32.** In a quiz, 5 marks are given for a correct answer and -2 for a wrong one. Riya answered 12 questions correctly and 9 wrongly. What was her total score?
- (A) 36 (B) 42
(C) 48 (D) 78
- 33.** A jug holds $3\frac{1}{2}$ litres. It is poured equally into glasses of $\frac{1}{4}$ litre each. How many glasses are filled?
- (A) 7 (B) 10
(C) 14 (D) 16
- 34.** The cost of 7 identical books is ₹441. What is the cost of 11 such books?
- (A) ₹630 (B) ₹714
(C) ₹693 (D) ₹770
- 35.** The ages of a father and son are in the ratio 7 : 2. If the son is 12, how old is the father?
- (A) 36 years (B) 54 years
(C) 48 years (D) 42 years
- 36.** Three bells ring at intervals of 6, 8 and 12 minutes. If they ring together at 9:00 a.m., when will they next ring together?
- (A) 9:24 a.m. (B) 9:12 a.m.
(C) 9:36 a.m. (D) 9:48 a.m.
- 37.** A rectangular field 40 m by 25 m is to be fenced with 3 rounds of wire. What total length of wire is needed?
- (A) 130 m (B) 390 m
(C) 260 m (D) 3,000 m
- 38.** A wire of length 44 cm is bent to form a square. What is the area of the square?
- (A) 11 cm^2 (B) 44 cm^2
(C) 121 cm^2 (D) $1,936\text{ cm}^2$
- 39.** The mean of five numbers is 18. If four of them are 12, 15, 20 and 24, what is the fifth number?
- (A) 17 (B) 19
(C) 21 (D) 23
- 40.** A submarine is at a depth of 250 m below sea level. It rises 80 m. What is its new position?
- (A) 80 m below sea level (B) 330 m below sea level
(C) 170 m above sea level (D) 170 m below sea level
- 41.** Anu spent $\frac{2}{5}$ of her pocket money on a book and $\frac{1}{4}$ on a pen. What fraction of her money is left?
- (A) $\frac{7}{20}$ (B) $\frac{13}{20}$
(C) $\frac{3}{9}$ (D) $\frac{9}{20}$
- 42.** ₹1,200 is shared between two friends in the ratio 5 : 7. How much does the one with the larger share get?
- (A) ₹500 (B) ₹700
(C) ₹600 (D) ₹840

43. Two angles of a triangle measure 48° and 72° . What kind of triangle is it?
- (A) Right-angled (B) Obtuse-angled
(C) Acute-angled (D) Equilateral
44. A car travels 180 km in 3 hours. In how many hours will it travel 300 km at the same speed?
- (A) 4 hours (B) 8 hours
(C) 6 hours (D) 5 hours
45. A gardener has 60 roses and 84 marigolds. He makes identical bouquets using all the flowers with none left over. What is the greatest number of bouquets he can make?
- (A) 6 (B) 12
(C) 20 (D) 24

Achievers Section

Q46–Q50 · 3 marks each

46. Consider the following statements.
- (i) The HCF of two numbers is always a factor of their LCM.
(ii) If a number is divisible by 9, it is divisible by 3.
(iii) The product of any two consecutive whole numbers 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 12, 15 or 18, leaves a remainder of 5 each time?
- (A) 175 (B) 180
(C) 185 (D) 365
48. The present ages of Anu and Bina are in the ratio 4 : 5. After 6 years the ratio will be 6 : 7. What is Anu's present age?
- (A) 12 years (B) 16 years
(C) 20 years (D) 24 years
49. A rectangular sheet 24 cm by 18 cm is cut into the largest possible identical squares, with nothing wasted. How many squares are obtained?
- (A) 6 (B) 12
(C) 24 (D) 36
50. The length of a rectangle is twice its breadth and its perimeter is 72 cm. What is its area?
- (A) 144 cm^2 (B) 288 cm^2
(C) 216 cm^2 (D) 432 cm^2

Answer Key

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

Solutions

1. Answer: (C) 47

Each number is doubled and then 1 is added: $2 \times 2 + 1 = 5$, $5 \times 2 + 1 = 11$, $11 \times 2 + 1 = 23$, $23 \times 2 + 1 = 47$.

2. Answer: (D) 51

17, 23 and 31 are all prime numbers. **51** = 3×17 is composite, so it is the odd one out.

3. Answer: (A) WD

The first letter moves backward — Z, Y, X, **W** — and the second moves forward — A, B, C, **D**. So the next pair is **WD**.

4. Answer: (D) 6-1-20-8-5-18

Each letter is replaced by its position in the alphabet.

F=6, A=1, T=20, H=8, E=5, R=18, giving **6-1-20-8-5-18**.

5. Answer: (A) Mother

The only daughter of the woman's mother is the woman herself. So the man's mother is the woman — the woman is his **mother**.

6. Answer: (D) 27th

Position from the back = total – position from front + 1 = $40 - 14 + 1 = 27$ **th**.

7. Answer: (A) 17 km

The paths form a right angle.

Distance = $\sqrt{8^2 + 15^2} = \sqrt{64 + 225} = \sqrt{289} = 17$ **km**.

8. Answer: (A) MOM

A word looks the same in a mirror only if it has left-right symmetry, letter by letter. **MOM** is made of the letters M, O, M — each of which is itself symmetrical left-to-right, and the word reads the same forwards as its mirror image. The letters in the other words are not all symmetrical in this way.

9. Answer: (D) 81

The second number is the first squared: $5^2 = 25$. So $9^2 = 81$.

10. Answer: (D) Wednesday

24 June is 23 days after 1 June. Since $23 = 3 \times 7 + 2$, this is 3 full weeks plus 2 extra days.

Monday + 2 days = **Wednesday**.

11. Answer: (A) 0

Whole numbers are 0, 1, 2, 3, ... so the smallest is **0**.

12. Answer: (A) $2^2 \times 3^2 \times 5$

$180 = 2 \times 2 \times 3 \times 3 \times 5 = 2^2 \times 3^2 \times 5$.

13. Answer: (D) -5

$12 - 7 = 5$, and 12 is the larger with a minus sign, so the answer is **-5**.

14. Answer: (A) 42

The product of two negative numbers is positive.

$(-6) \times (-7) = 42$.

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

The HCF of 18 and 24 is 6. $\frac{18}{24} = \frac{3}{4}$.

16. Answer: (D) 0.8

Move the decimal point two places right: $0.008 \rightarrow 0.8$.

17. Answer: (B) 5

$$4y = 20, \text{ so } y = 5.$$

18. Answer: (A) 4 : 7

HCF of 20 and 35 is 5. $20 \div 5 = 4$, $35 \div 5 = 7$, giving **4 : 7**.

19. Answer: (B) Reflex

A **reflex** angle is more than 180° but less than 360° .

20. Answer: (C) 120 m^2

$$\text{Area} = 15 \times 8 = \mathbf{120 \text{ m}^2}.$$

21. Answer: (B) 16

$$\text{Mean} = (8+12+15+20+25) \div 5 = 80 \div 5 = \mathbf{16}.$$

22. Answer: (C) 61

51, 57 and 91 are composite. **61** is prime.

23. Answer: (C) 24

Multiples of 6: 6, 12, 18, 24... Multiples of 8: 8, 16, 24... LCM = **24**.

24. Answer: (D) $\frac{31}{6}$

$$5 \times 6 + 1 = 31, \text{ so } 5\frac{1}{6} = \frac{31}{6}.$$

25. Answer: (C) 6

A regular hexagon has **6** lines of symmetry.

26. Answer: (A) 23

$$-23 + 23 = 0, \text{ so the additive inverse is } \mathbf{23}.$$

27. Answer: (B) $2n-5$

Twice the number is $2n$, five less is **$2n-5$** .

28. Answer: (C) Both 2 and 3

Since $6=2 \times 3$ and 2, 3 are co-prime, a number is divisible by 6 exactly when divisible by **both 2 and 3**.

29. Answer: (D) 6,074 kg

$$2,478 + 3,596 = \mathbf{6,074 \text{ kg}}.$$

30. Answer: (A) 30,000

$$1,250 \times 8 = 10,000 \text{ per day. In 3 days: } 10,000 \times 3 = \mathbf{30,000} \text{ bottles.}$$

31. Answer: (B) 7°C

$$-4 + 11 = \mathbf{7^\circ\text{C}}.$$

32. Answer: (B) 42

$$12 \times 5 = 60, 9 \times (-2) = -18. \text{ Total} = 60 - 18 = \mathbf{42}.$$

33. Answer: (C) 14

$$3\frac{1}{2} = \frac{7}{2}. \text{ Number of glasses} = \frac{7}{2} \div \frac{1}{4} = \frac{7}{2} \times 4 = \mathbf{14}.$$

34. Answer: (C) ₹693

$$\text{Cost of 1} = 441 \div 7 = ₹63. \text{ Cost of 11} = 11 \times 63 = \mathbf{₹693}.$$

35. Answer: (D) 42 years

$$1 \text{ part} = 6 \text{ years. Father} = 7 \times 6 = \mathbf{42 \text{ years}}.$$

36. Answer: (A) 9:24 a.m.

LCM of 6, 8, 12 = 24 minutes. Next together at **9:24 a.m.**

37. Answer: (B) 390 m

Perimeter = $2 \times (40+25) = 130$ m. For 3 rounds: $3 \times 130 = \mathbf{390}$ m.

38. Answer: (C) 121 cm^2

Side = $44 \div 4 = 11$ cm. Area = $11 \times 11 = \mathbf{121 \text{ cm}^2}$.

39. Answer: (B) 19

Total = $18 \times 5 = 90$. Sum of four = 71. Fifth = $90 - 71 = \mathbf{19}$.

40. Answer: (D) 170 m below sea level

$-250 + 80 = -170$, which is **170 m below sea level**.

41. Answer: (A) $\frac{7}{20}$

$\frac{2}{5} = \frac{8}{20}$, $\frac{1}{4} = \frac{5}{20}$. Spent = $\frac{13}{20}$. Left = $\frac{7}{20}$.

42. Answer: (B) ₹700

1 part = 100. Larger share = $7 \times 100 = \mathbf{₹700}$.

43. Answer: (C) Acute-angled

Third angle = 60° . All three angles (48, 72, 60) are less than 90° , so it is **acute-angled**.

44. Answer: (D) 5 hours

Speed = 60 km/h. Time = $300 \div 60 = \mathbf{5 \text{ hours}}$.

45. Answer: (B) 12

HCF of 60 and 84 = 12. He can make **12** bouquets.

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

Statement (i) is true. Statement (ii) is true, since 9 is a multiple of 3. Statement (iii) is false; of two consecutive numbers one is even, so the product is always even. Hence **(i) and (ii)**.

47. Answer: (C) 185

LCM of 12, 15, 18 = 180. Required number = $180 + 5 = \mathbf{185}$.

48. Answer: (A) 12 years

Let ages be $4x, 5x$. $\frac{4x+6}{5x+6} = \frac{6}{7}$. Solving: $28x+42=30x+36$, $x=3$. Anu's age = $4 \times 3 = \mathbf{12 \text{ years}}$.

49. Answer: (B) 12

HCF of 24, 18 = 6 cm. Along length: 4 squares, along breadth: 3 squares. Total = $4 \times 3 = \mathbf{12}$.

50. Answer: (B) 288 cm^2

$6b=72$, $b=12$ cm, length=24 cm. Area = $24 \times 12 = \mathbf{288 \text{ cm}^2}$.