

Full Practice Exam — Set 2

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

1. What comes next in the series? 3, 7, 15, 31, ____

- (A) 59 (B) 61
(C) 63 (D) 67

2. Find the **odd one out**: 16, 25, 36, 27

- (A) 16 (B) 25
(C) 36 (D) 27

3. Study the pattern of shapes in the figure. Which shape comes next?



A repeating sequence of square, circle and triangle shapes, with the ninth shape missing.

- (A) Triangle (B) Circle
(C) Square (D) Rectangle

4. In a certain code, GARDEN is written as 7-1-18-4-5-14. How is CANDLE written in the same code?

- (A) 3-1-14-5-12-4 (B) 3-2-14-4-12-5
(C) 4-1-14-3-12-5 (D) 3-1-14-4-12-5

5. Rohan (a boy) said, 'He is the son of my mother's only daughter.' How is the boy related to Rohan?

- (A) Nephew (B) Son
(C) Brother (D) Cousin

6. In a line of 50 students, Priya is 18th from the back. What is her position from the front?

- (A) 32nd (B) 31st
(C) 34th (D) 33rd

7. A cyclist rides 6 km north, then 8 km east. How far is she from her starting point?
- (A) 10 km (B) 14 km
(C) 2 km (D) 48 km
8. Which of these words looks the **same** when reflected left-to-right in a mirror?
- (A) PEN (B) BUS
(C) KID (D) WOW
9. $6 : 11 :: 9 : \underline{\hspace{1cm}}$
- (A) 15 (B) 17
(C) 18 (D) 20
10. If 5 March is a Thursday, what day of the week is 29 March?
- (A) Sunday (B) Saturday
(C) Monday (D) Friday

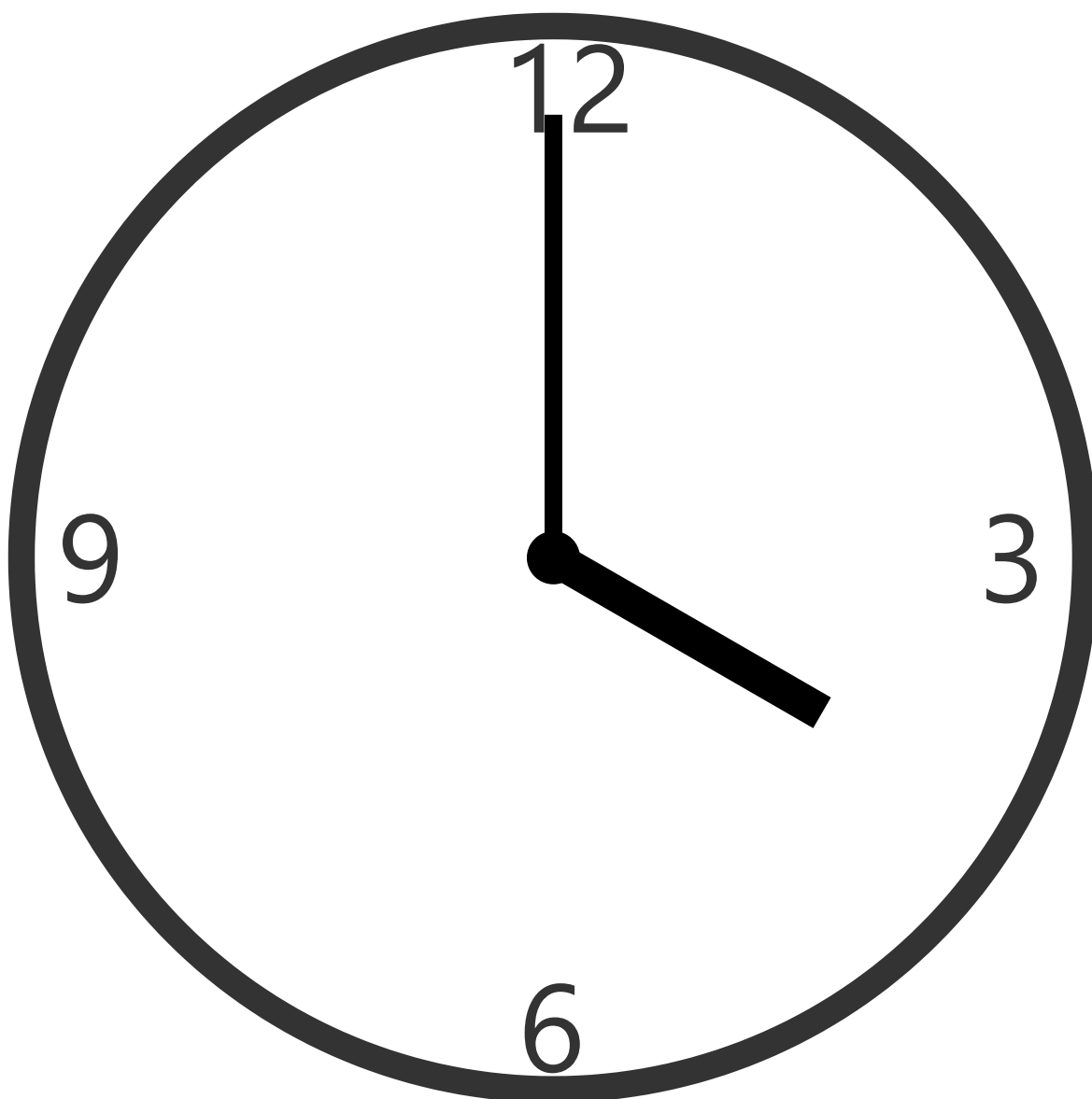
Section 2 — Mathematical Reasoning

Q11–Q28 · 1 mark each

11. The prime factorisation of 252 is _____.
(A) $2^2 \times 3 \times 7^2$ (B) $2 \times 3^3 \times 7$
(C) $2^3 \times 3 \times 7$ (D) $2^2 \times 3^2 \times 7$
12. $(-15) + 9 = \underline{\hspace{1cm}}$
(A) -6 (B) 6
(C) -24 (D) 24
13. $(-8) \times (-5) = \underline{\hspace{1cm}}$
(A) -40 (B) -13
(C) 40 (D) 13
14. $\frac{24}{32}$ in simplest form is _____.
(A) $\frac{7}{8}$ (B) $\frac{2}{3}$
(C) $\frac{5}{8}$ (D) $\frac{3}{4}$
15. $0.045 \times 100 = \underline{\hspace{1cm}}$
(A) 4.5 (B) 0.45
(C) 45 (D) 0.045
16. The solution of $5x - 7 = 28$ is $x = \underline{\hspace{1cm}}$.
(A) 5 (B) 6
(C) 7 (D) 8
17. The ratio $36 : 48$ in simplest form is _____.
(A) $2 : 3$ (B) $4 : 5$
(C) $3 : 4$ (D) $6 : 7$
18. An angle that measures exactly 90° is called a _____ angle.
(A) Acute (B) Straight
(C) Obtuse (D) Right

19. The area of a square of side 14 cm is _____.
(A) 196 cm^2 (B) 56 cm^2
(C) 28 cm^2 (D) 196 cm
20. The median of 7, 9, 3, 15 and 11 is _____.
(A) 7 (B) 9
(C) 11 (D) 15
21. Which of these is a composite number?
(A) 29 (B) 37
(C) 49 (D) 53
22. The LCM of 9 and 12 is _____.
(A) 3 (B) 36
(C) 72 (D) 108
23. $3\frac{2}{5}$ written as an improper fraction is _____.
(A) $\frac{15}{5}$ (B) $\frac{17}{5}$
(C) $\frac{6}{5}$ (D) $\frac{5}{17}$
24. How many lines of symmetry does an equilateral triangle have?
(A) 1 (B) 2
(C) 3 (D) 4
25. The multiplicative inverse (reciprocal) of $\frac{5}{8}$ is _____.
(A) $\frac{5}{8}$ (B) $\frac{-5}{8}$
(C) $\frac{8}{5}$ (D) $\frac{-8}{5}$
26. 'Seven more than three times a number n' is written as _____.
(A) $7-3n$ (B) $7n+3$
(C) $3n-7$ (D) $3n+7$
27. A number is divisible by 4 if _____.
(A) the number formed by its last two digits is divisible by 4 (B) its last digit is divisible by 4
(C) the sum of its digits is divisible by 4 (D) it is an even number

28. The clock in the figure shows a time of 4 o'clock exactly. What is the angle between the hour hand and the minute hand?



A clock face with the minute hand pointing to 12 and the (shorter) hour hand pointing to 4.

- (A) 90° (B) 120°
(C) 100° (D) 150°

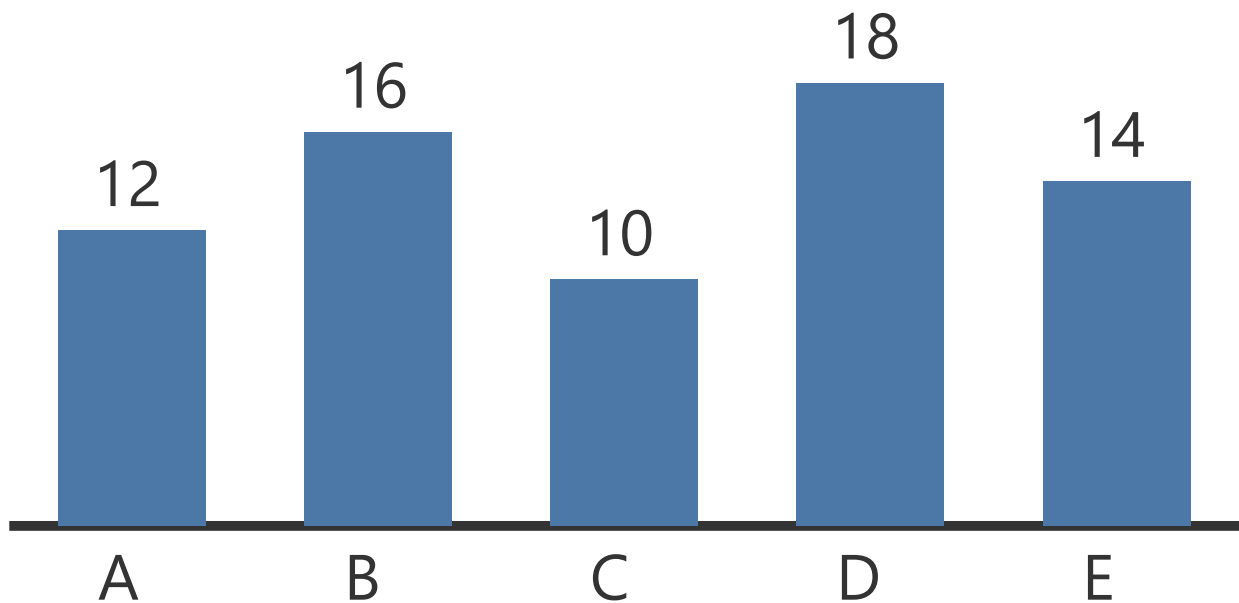
Section 3 — Everyday Mathematics

Q29–Q45 · 1 mark each

29. A trader sold 3,845 kg of wheat in one month and 2,967 kg the next. How much did he sell in the two months together?
- (A) 6,712 kg (B) 6,912 kg
(C) 6,812 kg (D) 6,802 kg
30. A printer prints 950 pages an hour. How many pages will it print in 4 days if it runs for 6 hours a day?
- (A) 28,500 (B) 19,000
(C) 5,700 (D) 22,800

31. The temperature at midnight was -7°C . By morning it had risen by 12°C . What was the morning temperature?
- (A) 5°C (B) -19°C
(C) -5°C (D) 19°C
32. In a quiz, 4 marks are given for a correct answer and -1 for a wrong one. Karan answered 15 questions correctly and 6 wrongly. What was his total score?
- (A) 60 (B) 54
(C) 66 (D) 48
33. A can holds $4\frac{1}{2}$ litres of juice. It is poured equally into cups of $\frac{3}{8}$ litre each. How many cups are filled?
- (A) 10 (B) 12
(C) 14 (D) 16
34. The cost of 9 identical pens is ₹315. What is the cost of 14 such pens?
- (A) ₹455 (B) ₹490
(C) ₹420 (D) ₹525
35. The ages of a mother and daughter are in the ratio 9 : 2. If the daughter is 8 years old, how old is the mother?
- (A) 32 years (B) 34 years
(C) 36 years (D) 40 years
36. Three lighthouses flash at intervals of 10, 15 and 20 seconds. If they flash together at 8:00:00, when will they next flash together?
- (A) 8:00:30 (B) 8:02:00
(C) 8:00:45 (D) 8:01:00
37. A rectangular park 60 m by 35 m is to be fenced with 2 rounds of wire. What total length of wire is needed?
- (A) 380 m (B) 190 m
(C) 570 m (D) 6,300 m
38. A wire of length 52 cm is bent to form a square. What is the area of the square?
- (A) 13 cm^2 (B) 169 cm^2
(C) 52 cm^2 (D) $2,704\text{ cm}^2$

39. The bar chart shows the marks (out of 20) scored by five students, A to E, in a class test. What is the mean mark?



Marks scored by students A, B, C, D and E, with the score of each student marked above its bar.

- (A) 12 (B) 13
(C) 14 (D) 15
40. A hot air balloon is at a height of 320 m above the ground. It descends 95 m. What is its new height?
(A) 95 m above the ground (B) 415 m above the ground
(C) 225 m above the ground (D) 225 m below the ground
41. Meera spent $\frac{3}{8}$ of her salary on rent and $\frac{1}{6}$ on groceries. What fraction of her salary is left?
(A) $\frac{7}{24}$ (B) $\frac{13}{24}$
(C) $\frac{5}{24}$ (D) $\frac{11}{24}$
42. ₹2,400 is divided between two partners in the ratio 3 : 5. How much does the partner with the smaller share get?
(A) ₹900 (B) ₹1,500
(C) ₹800 (D) ₹1,200
43. Two angles of a triangle measure 55° and 65° . What kind of triangle is it?
(A) Right-angled (B) Acute-angled
(C) Obtuse-angled (D) Equilateral
44. A cyclist covers 84 km in 4 hours. At the same speed, how long will she take to cover 126 km?
(A) 5 hours (B) 7 hours
(C) 6 hours (D) 8 hours

45. A florist has 90 lilies and 126 tulips. She wants to make identical bunches using all the flowers with none left over. What is the greatest number of bunches she can make?
- (A) 9 (B) 18
(C) 36 (D) 45

Achievers Section

Q46–Q50 · 3 marks each

46. Consider the following statements.
 (i) The LCM of two co-prime numbers is equal to their product.
 (ii) Every whole number is a natural number.
 (iii) The sum of any two odd numbers is always odd.
 Which of the statements is/are correct?
- (A) (i) only (B) (ii) and (iii) only
(C) (i) and (ii) only (D) All three
47. What is the smallest number which, when divided by 8, 10 or 12, leaves a remainder of 3 each time?
- (A) 120 (B) 123
(C) 125 (D) 363
48. The present ages of Raj and Simmi are in the ratio 3 : 4. After 5 years, the ratio of their ages will be 4 : 5. What is Raj's present age?
- (A) 12 years (B) 20 years
(C) 18 years (D) 15 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) $2^3 \times 3^2$	(1) 60
(Q) HCF of 24 and 36	(2) 72
(R) LCM of 4, 5 and 6	(3) 1
(S) $\{3/4\} + \{1/4\}$	(4) 12

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

- (A) P-2, Q-4, R-1, S-3 (B) P-4, Q-2, R-3, S-1
(C) P-1, Q-4, R-2, S-3 (D) P-2, Q-3, R-1, S-4
50. Assertion (A): The number 91 is a prime number.
 Reason (R): 91 is not divisible by 2, 3 or 5.
- (A) Both the Assertion and the Reason are true, and the Reason correctly explains the Assertion. (B) The Assertion is false, but the Reason is true.
(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	C	2	D	3	A	4	D	5	A
6	D	7	A	8	D	9	B	10	A
11	D	12	A	13	C	14	D	15	A
16	C	17	C	18	D	19	A	20	B
21	C	22	B	23	B	24	C	25	C
26	D	27	A	28	B	29	C	30	D
31	A	32	B	33	B	34	B	35	C
36	D	37	A	38	B	39	C	40	C
41	D	42	A	43	B	44	C	45	B
46	A	47	B	48	D	49	A	50	B

Solutions

1. Answer: (C) 63

Each number is doubled and then 1 is added: $3 \times 2 + 1 = 7$, $7 \times 2 + 1 = 15$, $15 \times 2 + 1 = 31$, $31 \times 2 + 1 = \mathbf{63}$.

2. Answer: (D) 27

$16 = 4^2$, $25 = 5^2$ and $36 = 6^2$ are perfect squares. **27** is not a perfect square, so it is the odd one out.

3. Answer: (A) Triangle

The shapes repeat in a cycle of three: square, circle, triangle. After a circle (the 8th shape), the pattern returns to the start of its cycle, so the missing shape is a **triangle**.

4. Answer: (D) 3-1-14-4-12-5

Each letter is replaced by its position in the alphabet.

C=3, A=1, N=14, D=4, L=12, E=5, giving **3-1-14-4-12-5**.

5. Answer: (A) Nephew

Since Rohan is a boy, the only daughter of his mother must be someone else — his only sister. The boy is the son of Rohan's sister, so he is Rohan's **nephew**.

6. Answer: (D) 33rd

Position from the front = total – position from back + 1 = $50 - 18 + 1 = \mathbf{33rd}$.

7. Answer: (A) 10 km

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

Distance = $\sqrt{6^2 + 8^2} = \sqrt{36 + 64} = \sqrt{100} = \mathbf{10 \text{ km}}$.

8. Answer: (D) WOW

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

9. Answer: (B) 17

The rule is: double the first number and subtract 1. $6 \times 2 - 1 = 11$. So $9 \times 2 - 1 = \mathbf{17}$.

10. Answer: (A) Sunday

29 March is 24 days after 5 March. Since $24 = 3 \times 7 + 3$, this is 3 full weeks plus 3 extra days.

Thursday + 3 days = **Sunday**.

11. Answer: (D) $2^2 \times 3^2 \times 7$

$252 = 2 \times 2 \times 3 \times 3 \times 7 = \mathbf{2^2 \times 3^2 \times 7}$.

12. Answer: (A) -6

$15 - 9 = 6$, and 15 is the larger number with a minus sign, so the answer is **-6**.

13. Answer: (C) 40

The product of two negative numbers is positive.

$(-8) \times (-5) = \mathbf{40}$.

14. Answer: (D) $\frac{3}{4}$

The HCF of 24 and 32 is 8. $\frac{24}{32} = \frac{\mathbf{3}}{\mathbf{4}}$.

15. Answer: (A) 4.5

Move the decimal point two places right: $0.045 \rightarrow \mathbf{4.5}$.

16. Answer: (C) 7

$5x = 35$, so $x = \mathbf{7}$.

17. Answer: (C) 3 : 4

HCF of 36 and 48 is 12. $36 \div 12 = 3$, $48 \div 12 = 4$, giving **3 : 4**.

18. Answer: (D) Right

An angle of exactly 90° is called a **right** angle.

19. Answer: (A) 196 cm^2

Area = side $\times$ side = $14 \times 14 = \mathbf{196 \text{ cm}^2}$.

20. Answer: (B) 9

Arranging in order: 3, 7, 9, 11, 15. The middle value is **9**.

21. Answer: (C) 49

29, 37 and 53 are prime. **49** = 7×7 is composite.

22. Answer: (B) 36

Multiples of 9: 9, 18, 27, 36... Multiples of 12: 12, 24, 36... LCM = **36**.

23. Answer: (B) $\frac{17}{5}$

$3 \times 5 + 2 = 17$, so $3\frac{2}{5} = \frac{17}{5}$.

24. Answer: (C) 3

An equilateral triangle has **3** lines of symmetry.

25. Answer: (C) $\frac{8}{5}$

The reciprocal of $\frac{5}{8}$ is obtained by inverting the fraction: $\frac{8}{5}$.

26. Answer: (D) $3n+7$

Three times the number is $3n$; seven more than that is **$3n+7$** .

27. Answer: (A) the number formed by its last two digits is divisible by 4

A number is divisible by 4 exactly when **the number formed by its last two digits is divisible by 4**; being even alone is not enough, since, for example, 18 is even but not divisible by 4.

28. Answer: (B) 120°

Each hour mark on a clock face is $360^\circ \div 12 = 30^\circ$ apart. At 4 o'clock exactly, the minute hand points to 12 and the hour hand points to 4, which is 4 marks away.

Angle = $4 \times 30^\circ = \mathbf{120^\circ}$.

29. Answer: (C) 6,812 kg

$3,845 + 2,967 = \mathbf{6,812 \text{ kg}}$.

30. Answer: (D) 22,800

$950 \times 6 = 5,700$ pages per day. In 4 days: $5,700 \times 4 = \mathbf{22,800}$ pages.

31. Answer: (A) 5°C

$-7 + 12 = \mathbf{5^\circ \text{C}}$.

32. Answer: (B) 54

$15 \times 4 = 60$, $6 \times (-1) = -6$. Total = $60 - 6 = \mathbf{54}$.

33. Answer: (B) 12

$4\frac{1}{2} = \frac{9}{2}$. Number of cups = $\frac{9}{2} \div \frac{3}{8} = \frac{9}{2} \times \frac{8}{3} = \mathbf{12}$.

34. Answer: (B) ₹490

Cost of 1 pen = $315 \div 9 = ₹35$. Cost of 14 pens = $14 \times 35 = \mathbf{₹490}$.

35. Answer: (C) 36 years

1 part = $8 \div 2 = 4$ years. Mother's age = $9 \times 4 = \mathbf{36}$ years.

36. Answer: (D) 8:01:00

LCM of 10, 15, 20 = 60 seconds = 1 minute. They will next flash together at **8:01:00**.

37. Answer: (A) 380 m

Perimeter = $2 \times (60+35) = 190$ m. For 2 rounds: $2 \times 190 = \mathbf{380}$ m.

38. Answer: (B) 169 cm^2

Side = $52 \div 4 = 13$ cm. Area = $13 \times 13 = \mathbf{169 \text{ cm}^2}$.

39. Answer: (C) 14

Mean = $(12+16+10+18+14) \div 5 = 70 \div 5 = \mathbf{14}$.

40. Answer: (C) 225 m above the ground

$320 - 95 = \mathbf{225 \text{ m above the ground}}$.

41. Answer: (D) $\frac{11}{24}$

$\frac{3}{8} = \frac{9}{24}$, $\frac{1}{6} = \frac{4}{24}$. Spent = $\frac{13}{24}$. Left = $1 - \frac{13}{24} = \frac{11}{24}$.

42. Answer: (A) ₹900

Total parts = $3+5 = 8$. 1 part = $2,400 \div 8 = ₹300$. Smaller share = $3 \times 300 = \mathbf{₹900}$.

43. Answer: (B) Acute-angled

Third angle = $180^\circ - 55^\circ - 65^\circ = 60^\circ$. All three angles (55° , 65° , 60°) are less than 90° , so it is **acute-angled**.

44. Answer: (C) 6 hours

Speed = $84 \div 4 = 21$ km/h. Time = $126 \div 21 = \mathbf{6 \text{ hours}}$.

45. Answer: (B) 18

HCF of 90 and 126 = 18. She can make **18** bunches.

46. Answer: (A) (i) only

Statement (i) is true, since co-prime numbers share no common factor other than 1, so their LCM is their product.

Statement (ii) is false, since 0 is a whole number but not a natural number. Statement (iii) is false, since the sum of two odd numbers is always even. Hence **(i) only** is correct.

47. Answer: (B) 123

LCM of 8, 10, 12 = 120. Required number = $120 + 3 = \mathbf{123}$.

48. Answer: (D) 15 years

Let their ages be $3x$ and $4x$. $\frac{3x+5}{4x+5} = \frac{4}{5}$. Solving: $15x+25=16x+20$, so $x=5$. Raj's age = $3 \times 5 = \mathbf{15 \text{ years}}$.

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

$P = 2^3 \times 3^2 = 8 \times 9 = 72$, which matches (2) in Column B. $Q = \text{HCF of } 24 \text{ and } 36 = 12$, which matches (4). $R = \text{LCM of } 4, 5 \text{ and } 6 = 60$, which matches (1). $S = \frac{3}{4} + \frac{1}{4} = 1$, which matches (3). So the correct matching is **P-2, Q-4, R-1, S-3**.

50. Answer: (B) The Assertion is false, but the Reason is true.

$91 = 7 \times 13$, so it is a composite number, not a prime number — the Assertion is false. However, 91 is odd, does not end in 0 or 5, and has digit sum $9+1=10$, which is not divisible by 3, so 91 is indeed not divisible by 2, 3 or 5 — the Reason is true. Hence, the Assertion is false, but the Reason is true.