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CLASS X · MATHEMATICS BASIC (241) · CBSE BOARD EXAMINATION 2027

CHAPTER 1 BASIC

Real Numbers

Chapter Practice Booklet · Questions only · Answers in the separate Answer Booklet

6 guided method questions | 44 practice questions | 3 case studies

Basic (430 series) board question index

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STUDENT DETAILS

NAME _____

CLASS & SECTION _____

ROLL NO. _____

BOOKLET STARTED ON _____

CHAPTER TEST SCORE _____ / 20

1

READ THIS FIRST · MATHEMATICS BASIC

Chapter Notes

The whole chapter in short-note form: every definition, formula, method and model answer. Revise from here – you should not need the textbook again.

1 The real number family

Natural numbers 1, 2, 3, … · **Whole numbers** 0, 1, 2, … · **Integers** …, –2, –1, 0, 1, 2, …

Rational number: can be written as $\frac{p}{q}$, where p, q are integers and $q \neq 0$. Examples: 5, $-\frac{3}{7}$, 0.25.

Irrational number: cannot be written as $\frac{p}{q}$. Its decimal form never ends and never repeats. Examples: $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$, π.

Real numbers = all rational numbers + all irrational numbers.

2 Prime, composite and coprime numbers

- **Prime:** exactly two factors, 1 and itself (2, 3, 5, 7, 11, …). **Composite:** more than two factors (4, 6, 8, 9, …).
- **1 is neither prime nor composite.** 2 is the only even prime. Smallest composite = 4; smallest odd composite = 9.
- **Coprime numbers:** HCF = 1, e.g. 8 and 15. Two different primes are always coprime; so are two consecutive numbers.
- If a and b are coprime, then a^2 and b^2 (or any powers) are also coprime.

3 Fundamental Theorem of Arithmetic

Statement: Every composite number can be expressed as a product of primes, and this factorisation is **unique**, apart from the order in which the prime factors occur.

- So every composite number has exactly one set of prime factors – its "prime signature".
- Write the answer in **index form**, primes in ascending order: $3150 = 2 \times 3^2 \times 5^2 \times 7$.
- **Factor tree:** split into any two factors and keep splitting until every branch ends in a prime.
- **Division method:** divide repeatedly by 2, 3, 5, 7, … : 3150 → 1575 → 525 → 175 → 35 → 7.

4 HCF and LCM by prime factorisation

HCF = product of the **smallest** power of each **common** prime factor.
LCM = product of the **greatest** power of **every** prime factor present.

EXAMPLE – TWO NUMBERS

$60 = 2^2 \times 3 \times 5$, $84 = 2^2 \times 3 \times 7$
HCF $= 2^2 \times 3 = 12$ · LCM $= 2^2 \times 3 \times 5 \times 7 = 420$

EXAMPLE – THREE NUMBERS

$12 = 2^2 \times 3$, $18 = 2 \times 3^2$, $30 = 2 \times 3 \times 5$
HCF $= 2 \times 3 = 6$ · LCM $= 2^2 \times 3^2 \times 5 = 180$

WITH LETTERS

$12x^3y^2 = 2^2 \cdot 3 \cdot x^3y^2$, $18x^2y^4 = 2 \cdot 3^2 \cdot x^2y^4$
HCF $= 2 \cdot 3 \cdot x^2y^2 = 6x^2y^2$ · LCM $= 2^2 \cdot 3^2 \cdot x^3y^4 = 36x^3y^4$

5 Relation between HCF and LCM

For any two positive integers a and b:
$\text{HCF}(a, b) \times \text{LCM}(a, b) = a \times b$

- Use it to find one when the other is given: LCM $= (a \times b) \div$ HCF.
- **Not true for three numbers:** for 12, 18, 30, HCF × LCM = 6 × 180 = 1080, but the product = 6480.
- HCF always divides LCM. So HCF = 15 with LCM = 175 is impossible (175 ÷ 15 is not a whole number).
- Coprime numbers: HCF = 1 and LCM = their product.
- HCF ≤ the smaller number; LCM ≥ the larger number.

6 Does a number end with 0?

- A number ends with 0 $\Leftrightarrow$ it is divisible by $10 = 2 \times 5$ $\Leftrightarrow$ its prime factorisation has **both 2 and 5**.
- $4^n = 2^{2n}$ has no 5 $\rightarrow$ never ends in 0. $15^n = 3^n \times 5^n$ has no 2 $\rightarrow$ never ends in 0. $20^n = 2^{2n} \times 5^n \rightarrow$ always ends in 0.
- By uniqueness (FTA), no new prime can appear in a^n – only the primes of a.
- Last digits: 5^n always ends in 5, 6^n always ends in 6, so $5^n + 6^n$ ends in 1.

7 Showing a number is composite

- Take out the common factor and show the number = (a number > 1) × (a number > 1).

EXAMPLE

$4 \times 9 \times 13 + 9 = 9 \times (4 \times 13 + 1) = 9 \times 53 \rightarrow$ it has factors other than 1 and itself, so it is composite.

$4 \times 3 \times 2 \times 1 + 4 = 4 \times (6 + 1) = 4 \times 7 = 28 \rightarrow$ composite.

8 The key theorem behind every irrationality proof

> Let p be a prime. If p divides a^2 (where a is a positive integer), then p divides a.

Why: by FTA, the primes in a^2 are exactly the primes in a, each appearing twice. So if p is a factor of a^2, it is already a factor of a.

9 Model answer: $\sqrt{2}$ is irrational (3 marks)

1. Assume, to the contrary, that $\sqrt{2}$ is rational. Then $\sqrt{2} = \frac{a}{b}$, where a, b are integers, $b \neq 0$, and a, b are coprime.
2. Squaring, $2b^2 = a^2$. So 2 divides a^2, hence 2 divides a.
3. Let $a = 2c$. Then $2b^2 = 4c^2$, i.e. $b^2 = 2c^2$. So 2 divides b^2, hence 2 divides b.
4. Now 2 is a common factor of a and b. This contradicts that a and b are coprime.
5. So our assumption is wrong. Hence $\sqrt{2}$ is irrational.

Same five steps for $\sqrt{3}$ and $\sqrt{5}$: replace 2 by 3 or 5 everywhere (e.g. $a = 3c$ gives $b^2 = 3c^2$).

10 Model answer: $a + b\sqrt{p}$ is irrational

SHOW THAT $4 - 5\sqrt{2}$ IS IRRATIONAL (GIVEN $\sqrt{2}$ IS IRRATIONAL)

1. Assume $4 - 5\sqrt{2}$ is rational: $4 - 5\sqrt{2} = \frac{a}{b}$, where a, b are coprime integers and $b \neq 0$.
2. Then $5\sqrt{2} = 4 - \frac{a}{b} = \frac{4b - a}{b}$, so $\sqrt{2} = \frac{4b - a}{5b}$.
3. As a, b are integers, $\frac{4b - a}{5b}$ is rational, so $\sqrt{2}$ would be rational.
4. This contradicts the fact that $\sqrt{2}$ is irrational. Hence $4 - 5\sqrt{2}$ is irrational.

For $\frac{1}{\sqrt{3}}$: assume $\frac{1}{\sqrt{3}} = \frac{a}{b} \rightarrow \sqrt{3} = \frac{b}{a}$, rational $\rightarrow$ contradiction.

11 Rational and irrational: what you get

rational ± irrational	always irrational: $3 + \sqrt{2}$
non-zero rational × or ÷ irrational	always irrational: $5\sqrt{3}$, $\frac{\sqrt{3}}{4}$
irrational ± irrational	may be rational: $\sqrt{2} + (-\sqrt{2}) = 0$; may be irrational: $\sqrt{2} + \sqrt{3}$
irrational × irrational	may be rational: $\sqrt{2} \times \sqrt{8} = 4$; may be irrational: $\sqrt{2} \times \sqrt{3} = \sqrt{6}$
$\sqrt{\text{perfect square}}$	rational: $\sqrt{\frac{9}{16}} = \frac{3}{4}$, $\sqrt{49} = 7$

12 HCF / LCM word problems – which formula?

Greatest number dividing a, b exactly	$\text{HCF}(a, b)$
… leaving remainders r_1, r_2	$\text{HCF}(a - r_1,\ b - r_2)$
Smallest number divisible by x, y, z	$\text{LCM}(x, y, z)$
… leaving remainder r in each case	$\text{LCM} + r$
… leaving remainders with $x - r_1 = y - r_2 = k$	$\text{LCM} - k$
Bells / lights / runners together again	LCM of the intervals
Largest square tile for a floor	side = HCF(length, breadth) in the same unit
Greatest n-digit number divisible by x, y	largest multiple of LCM with n digits

13 Model answer: HCF word problem (3 marks)

At a quiz, 60 Hindi, 84 English and 108 Maths participants are to be seated so that each room has the same number of participants, all of one subject. Find the minimum number of rooms.

1. Fewest rooms means the **most** participants in a room, and that number must divide 60, 84 and 108: so we need the HCF. ½
2. $60 = 2^2 \times 3 \times 5$, $84 = 2^2 \times 3 \times 7$, $108 = 2^2 \times 3^3$ 1
3. $\text{HCF} = 2^2 \times 3 = 12$ participants per room ½
4. $\text{Rooms} = \dfrac{60 + 84 + 108}{12} = \dfrac{252}{12} = 21$ 1

"Greatest", "largest", "maximum" in a sharing question → HCF. "Together again", "least", "smallest" → LCM.

Exam snapshot

What the board asks, and how to prepare

SYLLABUS 2026–27

- Fundamental Theorem of Arithmetic: prime factorisation, HCF and LCM.
- Proofs that $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$ are irrational, and numbers built from them like $a + b\sqrt{p}$ and $\frac{1}{\sqrt{p}}$.

Not asked: Euclid's division lemma and algorithm, decimal expansions of rational numbers (both deleted).

BOARD WEIGHTAGE

6 / 80

Unit I Number Systems is this chapter alone. Basic papers give 1-mark questions on HCF and LCM, a question on numbers ending in 0, and a 3-mark proof (or a factor tree in the OR). Learn the proof steps by heart.

MOST ASKED IN BASIC BOARD PAPERS + SAMPLE PAPER 2026–27 (3 PAPERS CHECKED)

How often	Question type	Marks	Papers
★★★	HCF and LCM: find one from the other, HCF × LCM = product, HCF divides LCM	1	3 of 3
★★☆	Prove $\sqrt{3}$ or $a + b\sqrt{5}$ irrational	3	2 of 3
★★☆	Can a number like 25^n end with 0?	1–2	2 of 3
★★☆	Factor tree; show a number is composite	1–3	2 of 3
★☆☆	Is $3 + \sqrt{2}$ rational or irrational?	1	1 of 3
★☆☆	Smallest number that becomes divisible after adding a number	2	1 of 3

MISTAKES THAT COST MARKS

- Starting a proof with "$\sqrt{3}$ is irrational" for $\sqrt{3}$ itself. Assume it is rational and reach a contradiction.
- Forgetting "$b \neq 0$" and "a, b coprime" in the first line. They carry marks.
- Writing the prime factors without index form, or with a composite factor such as 4 or 6.
- Using HCF × LCM = product for three numbers.
- Mixing up HCF and LCM in word problems: read what is asked twice.
- Saying 6^n can end in 0. It has the factor 2 but no 5.

HOW TO USE THIS BOOKLET

1. **Day 1:** Notes, then Part A (guided methods) – fill every blank.
2. **Day 2:** Part B (NCERT practice). Do every MUST DO question first.
3. **Day 3:** Part C (board pattern), Part D (case studies) and the real board questions in Part E.
4. **Sun 6 Dec: Sunday chapter test – 20 marks in 40 minutes, without the booklet.**
5. Check every answer in the Answer Booklet. Write each mistake on the My Mistakes page.

RULES AT A GLANCE

Two numbers a, b	$\text{HCF} \times \text{LCM} = a \times b$
HCF / LCM	smallest power of common primes / greatest power of all primes
Ends in 0	prime factors must include 2 and 5
Key theorem	prime p divides $a^2 \Rightarrow p$ divides a
Rational ± irrational	always irrational
Remainders r_1, r_2	$\text{HCF}(a - r_1, b - r_2)$; same remainder r: LCM $+ r$

A

PART A · LEARN THE METHODS

Guided Practice

Fill in the blanks to learn each board method step by step. Then use the same steps on your own in Part B.

Prime factorisation, HCF and LCM

A1. Complete the division ladder to write 360 as a product of primes. MUST DO [2]

$360 \div 2 =$ _____, $\div 2 =$ _____, $\div 2 =$ _____

$\div 3 =$ _____, $\div 3 =$ _____, $\div 5 = 1$

So $360 = 2^{\square} \times 3^{\square} \times 5 =$ _____

A2. Complete the steps to find the HCF and LCM of 84 and 120. MUST DO [3]

$84 = 2^{\square} \times ____ \times ____$, $120 = 2^{\square} \times ____ \times ____$

HCF = smallest powers of the common primes = _____ = _____

LCM = greatest powers of all the primes = _____ = _____

Check: HCF × LCM = _____ and 84×120 = _____

Irrationality proofs

A3. Complete the proof that $\sqrt{2}$ is irrational. MUST DO [3]

Assume, to the contrary, that $\sqrt{2}$ is _____. Then $\sqrt{2} = \frac{a}{b}$, where a, b are _____ integers and $b \neq$ ___.

Squaring: $2b^2 =$ _____. So 2 divides _____, and hence 2 divides _____.

Let $a = 2c$. Then $2b^2 =$ _____, so $b^2 =$ _____. So 2 divides _____.

Now 2 is a common factor of a and b. This contradicts _____. Hence $\sqrt{2}$ is _____.

A4. Given that $\sqrt{3}$ is irrational, complete the proof that $5 + 2\sqrt{3}$ is irrational. [2]

Assume $5 + 2\sqrt{3} = \frac{a}{b}$, where a, b are coprime integers, $b \neq 0$.

Then $2\sqrt{3} = \frac{a}{b} -$ ____ $=$ $\frac{____}{b}$, so $\sqrt{3} =$ _____.

Since a and b are integers, the right side is _____, so $\sqrt{3}$ is _____.

But $\sqrt{3}$ is irrational. This is a _____. Hence $5 + 2\sqrt{3}$ is _____.

Using prime factors to reason

A5. Complete the reasoning: can 6^n end with the digit 0 for any natural number n? [2]

$6^n = (2 \times 3)^n =$ _____. A number ending in 0 is divisible by $10 =$ ____ × ____.

The only primes in 6^n are ____ and ____. The prime ____ is missing, so 6^n _____ end with 0.

A6. Write HCF or LCM for each situation. [2]

(i) Three bells ring every 10, 15 and 20 minutes. When do they ring together again?

(ii) The largest square tile that exactly covers a 4 m by 6 m floor.

(iii) The smallest number of sweets that can be shared equally among 8 or among 12 children.

(iv) The greatest number of identical gift packs from 24 pens and 36 pencils.

PART B · NCERT PRACTICE

B NCERT Practice

The same skills as the NCERT examples and exercises, with new numbers. Basic papers are built on NCERT, so finish every question.

Prime factorisation (Fundamental Theorem of Arithmetic)

B1. Express each number as a product of its prime factors: MUST DO [5]

(i) 180 (ii) 252 (iii) 4725 (iv) 6435 (v) 4199

B2. The exponent of 2 in the prime factorisation of 144 is: [1]

(a) 2 (b) 3 (c) 4 (d) 5

B3. Check whether 8^n can end with the digit 0 for any natural number n. MUST DO [2]

B4. Explain why $5 \times 11 \times 17 + 17$ and $6 \times 5 \times 4 \times 3 \times 2 \times 1 + 6$ are composite numbers. MUST DO [2]

HCF and LCM by prime factorisation

B5. Find the HCF and LCM of 12 and 42 by the prime factorisation method. [2]

B6. Find the LCM and HCF of each pair and verify that LCM $\times$ HCF = product of the two numbers: MUST DO [3]

(i) 38 and 57 (ii) 390 and 76 (iii) 288 and 120

B7. Find the LCM and HCF of the following integers by the prime factorisation method: [3]

(i) 18, 24 and 30 (ii) 13, 19 and 31 (iii) 4, 27 and 35

B8. Given that HCF(252, 594) = 18, find LCM(252, 594). MUST DO [2]

B9. Two cyclists start together from the same point of a circular track and ride in the same direction. One completes a round in 16 minutes and the other in 20 minutes. After how many minutes will they meet again at the starting point? MUST DO [2]

Irrational numbers

B10. Prove that $\sqrt{5}$ is irrational. MUST DO [3]

B11. Given that $\sqrt{3}$ is irrational, prove that $2 + 5\sqrt{3}$ is irrational. MUST DO [3]

B12. Prove that the following are irrational: [3]

(i) $\dfrac{1}{\sqrt{3}}$ (ii) $4\sqrt{2}$ (iii) $7 - \sqrt{5}$

B13. If 3 divides a^2, where a is a positive integer, then which of these must be true? [1]

(a) 9 divides a (b) 3 divides a

(c) a is odd (d) 6 divides a

C

PART C · BOARD PATTERN (BASIC)

Board Pattern Practice

Question types from real Mathematics Basic papers (430 series) and the 2026–27 Sample Paper. ★★★ = asked in all 3 papers checked · ★★ = 2 papers · ★ = 1 paper.

ASSERTION–REASON: HOW TO ANSWER

(a) Both A and R are true, and R is the correct explanation of A.
(b) Both A and R are true, but R is not the correct explanation of A.
(c) A is true, but R is false.
(d) A is false, but R is true.

Irrationality proofs

★★☆ 2 of 3 papers · 3 marks

C1. Prove that $\sqrt{3}$ is irrational. MUST DO [3]

C2. Given that $\sqrt{5}$ is irrational, prove that $4 - 3\sqrt{5}$ is irrational. MUST DO [2]

C3. Given that $\sqrt{5}$ is irrational, prove that $\dfrac{3}{\sqrt{5}}$ is irrational. [2]

C4. Given that $\sqrt{2}$ is irrational, prove that $3\sqrt{2} - 1$ is irrational. [2]

Finding HCF and LCM

★★★ 3 of 3 papers · 1 mark

C5. The HCF of 756 and 504 is: MUST DO [1]

(a) 126 (b) 252 (c) 504 (d) 84

C6. The LCM of $2^3 \times 3^2$ and $2^2 \times 3^3$ is: [1]

(a) 108 (b) 72 (c) 36 (d) 216

C7. The LCM of $15a^2b^3$ and $10a^4b$ is: [1]

(a) $5a^2b$ (b) $30a^4b^3$ (c) $150a^6b^4$ (d) $30a^2b$

C8. If $\text{HCF}(a, b) = 12$ and $a \times b = 1800$, then $\text{LCM}(a, b)$ is: [1]

(a) 12 (b) 900 (c) 150 (d) 1800

C9. If two positive integers p and q are coprime, then $\text{LCM}(p, q)$ is: [1]

(a) 1 (b) $p + q$ (c) pq (d) $\dfrac{p}{q}$

C10. Given that HCF(1080, 1200) = 120 and $\text{LCM}(1080, 1200) = 108 \times k$, the value of k is: [1]

(a) 10 (b) 1000 (c) 100 (d) 120

C11. ASSERTION–REASON [1]

Assertion (A): There are two natural numbers whose HCF is 16 and LCM is 380.
Reason (R): The HCF of two natural numbers always divides their LCM.

C12. The HCF of two numbers is 23 and their LCM is 1449. If one of the numbers is 161, find the other. MUST DO [2]

C13. Find the HCF of 120 and 144 by prime factorisation. Hence find their LCM. [2]

C14. Find the HCF and LCM of 72, 108 and 180 by prime factorisation. Is HCF × LCM equal to the product of the three numbers? Justify. MUST DO [3]

HCF and LCM word problems

★☆☆ 1 of 3 papers · 2 marks

C15. Three school bells ring at intervals of 12, 18 and 30 minutes. If they ring together at 8:00 a.m., at what time will they next ring together? MUST DO [2]

C16. A school workshop has 45 Science, 75 Maths and 105 English teachers. Each room must seat the same number of teachers, all of one subject. Find the minimum number of rooms needed. MUST DO [3]

C17. Find the greatest length of a measuring rod that can measure 3 m 85 cm and 5 m 95 cm an exact number of times. [2]

C18. Find the greatest number which divides 245 and 1029, leaving a remainder 5 in each case. MUST DO [2]

C19. Find the smallest number which, when increased by 13, is exactly divisible by both 280 and 504. [2]

Prime and composite numbers · factor trees

★★☆ 2 of 3 papers · 1–3 marks

C20. Which of the following statements is true? MUST DO [1]

(a) 2 is the smallest composite number
(b) 1 is the smallest prime number
(c) 2 is the only even prime number
(d) every odd number is prime

C21. The number $5 \times 7 \times 11 + 7$ is: [1]

(a) a prime number
(b) a composite number
(c) neither prime nor composite
(d) a perfect square

C22. Show that $2 \times 3 \times 5 \times 7 \times 11 + 7 \times 11$ is a composite number. MUST DO [2]

C23. ASSERTION–REASON [1]

Assertion (A): $7 \times 11 \times 13 + 13$ is a composite number.

Reason (R): A number that has a factor other than 1 and itself is composite.

C24. In a factor tree, N splits as $2 \times a$, a splits as $3 \times b$, and b splits as 7×13. Find b, a and N, and write N as a product of primes. [2]

Last digit · numbers ending in 0

★★☆ 2 of 3 papers · 1–2 marks

C25. For any natural number n, the last digit of $5^n + 6^n$ is: [1]

(a) 1 (b) 5 (c) 6 (d) 0

C26. Which of the following ends with the digit 0 for some natural number n? MUST DO [1]

(a) 4^n (b) 6^n (c) 15^n (d) 20^n

C27. Check whether 35^n can end with the digit 0 for any natural number n. Justify your answer. [2]

Rational or irrational? Number facts

★☆☆ 1 of 3 papers · 1 mark

C28. A rational number between $\sqrt{2}$ and $\sqrt{3}$ is: [1]

(a) 1.2 (b) 1.5 (c) 1.8 (d) $\sqrt{2.5}$

C29. Which of the following is irrational? [1]

(a) $(2+\sqrt{3})(2-\sqrt{3})$ (b) $(\sqrt{5})^2$

(c) $\sqrt{2}\times\sqrt{18}$ (d) $(1+\sqrt{3})^2$

C30. ASSERTION–REASON [1]

Assertion (A): $5+\sqrt{3}$ is an irrational number.

Reason (R): The sum of a rational number and an irrational number is irrational.

C31. The number $2-\sqrt{5}$ is: [1]

(a) a natural number (b) an integer

(c) a rational number (d) an irrational number

D

PART D · SECTION E STYLE

Case-Based Questions

Each case carries 4 marks (1 + 1 + 2), as in Section E of the board paper. Underline the numbers in the passage before you start.

D1. Case Study · Sports Meet [4]

At the school sports meet, Aarav, Bhavya and Charu start jogging round a circular track from the same point at 7:00 a.m., in the same direction. They take 6 minutes, 9 minutes and 15 minutes respectively for one round.

(i) After how many minutes will Aarav and Bhavya first meet again at the starting point? [1]

(ii) Find the HCF of 6, 9 and 15. [1]

(iii) At what time will all three be at the starting point together again? [2]

OR

(iii) How many rounds will Charu have completed when all three first meet again at the starting point? [2]

D2. Case Study · Donation Drive [4]

Class X collected 336 notebooks, 240 pencils and 96 geometry boxes for a village school. They want to pack identical kits, using every item, with as many kits as possible.

(i) What is the greatest number of identical kits they can make? [1]

(ii) How many notebooks will there be in each kit? [1]

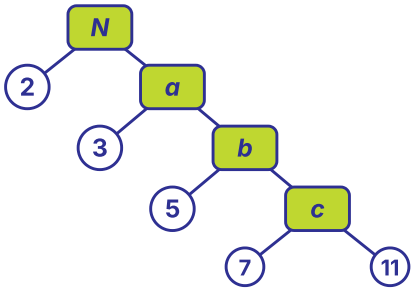
(iii) Write 336 and 240 as products of primes and find their LCM. [2]

OR

(iii) If they had collected 252 pencils instead of 240, what would be the greatest number of identical kits? [2]

D3. Case Study · Factor Tree [4]

Riya drew the factor tree below for a number N, but some values are missing. Each circle holds a prime number.



(i) Find the values of c and b. [1]

(ii) Find N and write it as a product of primes. [1]

(iii) Find the HCF and LCM of N and 840 by prime factorisation. [2]

OR

(iii) Find the smallest number divisible by each of 2, 3, 4, 5, 7 and 11. Is it equal to N? Give a reason. [2]

E

PART E · REAL BOARD QUESTIONS

Board PYQ Index (Basic)

Real questions from the Mathematics Basic (430 series) papers and the 2026–27 Sample Paper, by type. Open the official paper and solve the listed questions.

Frequency	Question type	Marks	Where asked (year: paper code, question number)	Practise here
★★★	**Find HCF / LCM, HCF × LCM**	1	**2026:** 430/1/2 Q15 · **2025:** 430/1/1 Q1, Q19 · **SQP 2026–27:** Q1	A2, B5–B9, C5–C14
★★☆	**Prove a number irrational**	3	**2025:** 430/1/1 Q26(a) · **SQP 2026–27:** Q26	A3–A4, B10–B13, C1–C4
★★☆	**Ends in 0 / last digit**	1–2	**2026:** 430/1/2 Q17 · **SQP 2026–27:** Q21(B)	A5, B3, C25–C27
★★☆	**Factor tree / composite**	1–3	**2026:** 430/1/2 Q19 · **2025:** 430/1/1 Q26(b)	A1, B1–B4, C20–C24, D3
★☆☆	**Rational or irrational?**	1	**2025:** 430/1/1 Q2	C28–C31
★☆☆	**HCF / LCM word problem**	2	**SQP 2026–27:** Q21(A)	A6, B9, C15–C19, D1–D2

Papers checked (3): 2026 – 430/1/2 (Section A only could be read online) · 2025 – 430/1/1 · CBSE Sample Paper 2026–27 (Mathematics Basic). Sets of one code family share most questions, so they count as one paper. Download the official papers from cbse.gov.in → Previous Year Question Papers → Mathematics Basic.

PART F · YOUR RECORD

F My Mistakes

Write down each mistake from this chapter, including the chapter test.

Every wrong answer is a free lesson. Write it here, find the rule you missed, and redo the question after three days. Bring this page to class before the next test.

Date	Part & Q No.	What went wrong	Correct rule or method	Redone ✓