

NMMS Gujarat Mathematics

Sample Paper – 3

Duration: 20 Minutes

Maximum Marks: 20

Instructions

- This paper contains **20** Multiple Choice Questions (Single Correct Answer), modelled on the Mathematics portion of **NMMS Gujarat** (National Means-cum-Merit Scholarship).
- Each correct answer carries **+1 mark**. There is **no negative marking** for incorrect or unattempted answers.
- Only **one** option is correct per question.
- Syllabus level: **Class 7 & 8 Mathematics — NCERT / GSEB curriculum**.
- Use of mobile phones, calculators, or electronic gadgets is strictly prohibited.

Questions

Q1. Arrange the rational numbers $-\frac{3}{4}$, $\frac{1}{2}$, and $-\frac{1}{3}$ in ascending order (least to greatest).

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

Q2. Find $\sqrt{4096}$ using prime factorisation.

- (A) 32
(B) 48
(C) 56
(D) 64

Q3. Between which two consecutive integers does $\sqrt[3]{200}$ lie?

- (A) 5 and 6



(B) 6 and 7

(C) 4 and 5

(D) 7 and 8

Q4. Simplify: $\frac{5^4 \times 5^3}{5^5}$

(A) 5

(B) 25

(C) 125

(D) 625

Q5. Ravi is 3 times as old as his son. The sum of their ages is 52 years. Find Ravi's current age.

(A) 36 years

(B) 42 years

(C) 39 years

(D) 45 years

Q6. Subtract $(3x^2 - 2xy + y^2)$ from $(5x^2 + xy - 3y^2)$.

(A) $2x^2 - xy - 4y^2$

(B) $2x^2 + xy + 4y^2$

(C) $8x^2 - xy + 4y^2$

(D) $2x^2 + 3xy - 4y^2$

Q7. Using the identity $(a + b)(a - b) = a^2 - b^2$, find the value of 97×103 .

(A) 9991

(B) 9981

(C) 10001

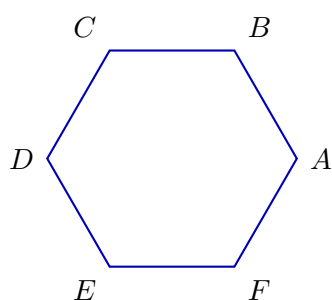
(D) 9909



Q8. Factorise $x^2 + 7x + 12$ by splitting the middle term.

- (A) $(x + 2)(x + 6)$
- (B) $(x + 3)(x + 4)$
- (C) $(x + 1)(x + 12)$
- (D) $(x + 5)(x + 7)$

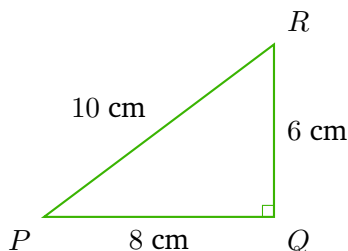
Q9. What is the sum of all interior angles of a regular hexagon? (The hexagon $ABCDEF$ is shown below.)



Regular Hexagon $ABCDEF$

- (A) 540°
- (B) 900°
- (C) 720°
- (D) 1080°

Q10. Which of the following sets of three lengths can form a triangle? (A valid example triangle is shown below.)



Sample valid triangle: sides 6, 8, 10

- (A) 3 cm, 4 cm, 8 cm
- (B) 5 cm, 5 cm, 11 cm

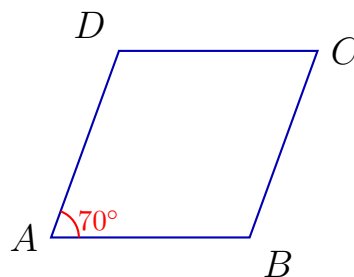


- (C) 2 cm, 6 cm, 9 cm
(D) 6 cm, 8 cm, 10 cm

Q11. In triangles ABC and PQR , $\angle B = \angle Q = 90^\circ$, hypotenuse $AC = PR$, and side $BC = QR$. By which congruence criterion are the triangles congruent?

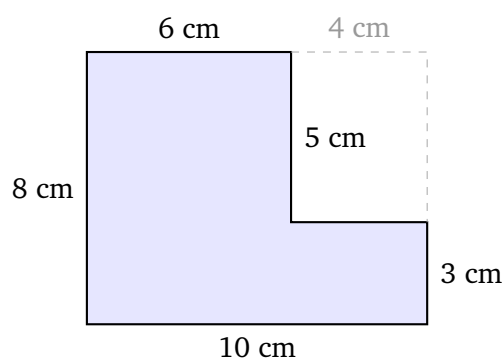
- (A) RHS (Right angle – Hypotenuse – Side)
(B) SAS (Side – Angle – Side)
(C) ASA (Angle – Side – Angle)
(D) SSS (Side – Side – Side)

Q12. In rhombus $ABCD$, one angle measures 70° . Find all four angles of the rhombus. (See figure below.)



- (A) 60° , 120° , 60° , 120°
(B) 70° , 110° , 70° , 110°
(C) 70° , 100° , 70° , 100°
(D) 80° , 100° , 80° , 100°

Q13. Find the area of the L-shaped figure shown below (all dimensions in cm).



- (A) 80 cm^2
- (B) 72 cm^2
- (C) 60 cm^2
- (D) 40 cm^2

Q14. The perimeter of a rectangle is 68 cm. If its length is 20 cm, find its breadth.

- (A) 28 cm
- (B) 17 cm
- (C) 34 cm
- (D) 14 cm

Q15. Find the volume of a cylinder with radius 7 cm and height 10 cm. $\left(\text{Use } \pi = \frac{22}{7}\right)$

- (A) 1540 cm^3
- (B) 1320 cm^3
- (C) 1760 cm^3
- (D) 770 cm^3

Q16. The cost price of an article is Rs. 1200. A VAT of 12% is charged. What is the total amount paid by the buyer?

- (A) Rs. 1212
- (B) Rs. 1344
- (C) Rs. 1440
- (D) Rs. 1260

Q17. An article has a marked price of Rs. 750. A discount of 15% is offered on it. Find the selling price.

- (A) Rs. 600.00
- (B) Rs. 625.00



(C) Rs. 637.50

(D) Rs. 650.00

Q18. Find the rate of interest per annum if the principal is Rs. 4000, the simple interest earned is Rs. 960, and the time period is 3 years.

(A) 6%

(B) 7%

(C) 9%

(D) 8%

Q19. Find the mode of the following data set:

4, 7, 4, 9, 4, 11, 7, 7, 9, 4

(A) 4

(B) 7

(C) 9

(D) 11

Q20. The marks scored by 30 students in a Mathematics test are given in the frequency table below. How many students scored **more than 20 marks**?

Marks	10	20	30	40	50
No. of Students	4	6	8	7	5

(A) 15

(B) 20

(C) 22

(D) 25



Detailed Solutions**Q1.****Solution**

Concept — Ordering Rational Numbers: To compare fractions with different denominators, convert them to equivalent fractions with a common denominator and compare numerators.

Step 1 — Find the LCM of denominators 4, 2, 3:

$$\text{LCM}(4, 2, 3) = 12$$

Step 2 — Convert each fraction to denominator 12:

$$\frac{-3}{4} = \frac{-9}{12}, \quad \frac{1}{2} = \frac{6}{12}, \quad \frac{-1}{3} = \frac{-4}{12}$$

Step 3 — Compare numerators and arrange:

$$-9 < -4 < 6 \implies \frac{-9}{12} < \frac{-4}{12} < \frac{6}{12} \implies \frac{-3}{4} < \frac{-1}{3} < \frac{1}{2}$$

Why other options are wrong:

- Option A: Places $-1/3$ before $-3/4$; but $-9/12 < -4/12$, so $-3/4$ is smaller.
- Option B: Places the positive fraction first, which is the greatest, not the least.
- Option D: Places $1/2$ in the middle between the two negatives, which is incorrect.

Final Answer: $\frac{-3}{4} < \frac{-1}{3} < \frac{1}{2} \Rightarrow \boxed{\text{C}}$

Answer: (C) [Go Back to Q1](#)



Q2.

Solution

Concept — Square Root by Prime Factorisation: Express the number as a product of prime factors, group them in pairs, and take one factor from each pair.

Step 1 — Prime factorisation of 4096:

$$4096 = 2 \times 2048 = 2^2 \times 1024 = 2^3 \times 512 = 2^4 \times 256 = 2^6 \times 64 = 2^{12}$$

Step 2 — Group factors in pairs and take square root:

$$\sqrt{4096} = \sqrt{2^{12}} = \sqrt{(2^6)^2} = 2^6 = 64$$

Why other options are wrong:

- Option A: $32 = 2^5$; $32^2 = 1024 \neq 4096$.
- Option B: $48^2 = 2304 \neq 4096$.
- Option C: $56^2 = 3136 \neq 4096$.

Final Answer: $\sqrt{4096} = 64 \Rightarrow \boxed{D}$

Answer: (D) [Go Back to Q2](#)

Q3.

Solution

Concept — Estimating Cube Roots: Find two consecutive integers n and $n + 1$ such that $n^3 < \text{given number} < (n + 1)^3$.

Step 1 — Compute cubes of integers near the expected value:

$$5^3 = 125, \quad 6^3 = 216, \quad 7^3 = 343$$

Step 2 — Locate 200 between consecutive cubes:

$$125 < 200 < 216 \implies 5^3 < 200 < 6^3 \implies 5 < \sqrt[3]{200} < 6$$

Why other options are wrong:

- Option B (6 and 7): $6^3 = 216 > 200$, so $\sqrt[3]{200} < 6$; it does not lie between 6 and 7.



- Option C (4 and 5): $5^3 = 125 < 200$, so $\sqrt[3]{200} > 5$; it does not lie between 4 and 5.
- Option D (7 and 8): $7^3 = 343 > 200$; far too large.

Final Answer: $\sqrt[3]{200}$ lies between 5 and 6 $\Rightarrow$ A

Answer: (A) [Go Back to Q3](#)

Q4.

Solution

Concept — Laws of Exponents: Product rule: $a^m \times a^n = a^{m+n}$. Quotient rule: $a^m \div a^n = a^{m-n}$.

Step 1 — Apply the product rule in the numerator:

$$5^4 \times 5^3 = 5^{4+3} = 5^7$$

Step 2 — Apply the quotient rule:

$$\frac{5^7}{5^5} = 5^{7-5} = 5^2 = 25$$

Why other options are wrong:

- Option A ($5 = 5^1$): Would require the exponent to be 1; but $4 + 3 - 5 = 2$.
- Option C ($125 = 5^3$): Would require exponent 3; but $4 + 3 - 5 = 2$.
- Option D ($625 = 5^4$): Would require exponent 4; but $4 + 3 - 5 = 2$.

Final Answer: $\frac{5^4 \times 5^3}{5^5} = 5^2 = 25 \Rightarrow$ B

Answer: (B) [Go Back to Q4](#)

Q5.

Solution

Concept — Age Problems using Linear Equations: Translate the word problem into an algebraic equation and solve.

Step 1 — Assign variables: Let son's age = x years. Then Ravi's age = $3x$ years.



Step 2 — Form the equation using the sum condition:

$$x + 3x = 52 \implies 4x = 52 \implies x = 13$$

Step 3 — Find Ravi's age:

$$\text{Ravi's age} = 3x = 3 \times 13 = 39 \text{ years}$$

Verification: Son = 13, Ravi = 39. Sum = $13 + 39 = 52$ ✓. Ravi is $3 \times 13 = 39$ ✓.

Why other options are wrong:

- Option A (36 years): Son would be 12; sum = $36 + 12 = 48 \neq 52$.
- Option B (42 years): Son would be 14; sum = $42 + 14 = 56 \neq 52$.
- Option D (45 years): Son would be 15; sum = $45 + 15 = 60 \neq 52$.

Final Answer: Ravi's age = 39 years $\Rightarrow$ C

Answer: (C) [Go Back to Q5](#)

Q6.

Solution

Concept — Subtraction of Algebraic Expressions: “Subtract A from B ” means $B - A$. Change the sign of every term in A , then add to B .

Step 1 — Write the subtraction:

$$(5x^2 + xy - 3y^2) - (3x^2 - 2xy + y^2)$$

Step 2 — Remove brackets by changing signs of the second polynomial:

$$= 5x^2 + xy - 3y^2 - 3x^2 + 2xy - y^2$$

Step 3 — Collect like terms:

$$= (5 - 3)x^2 + (1 + 2)xy + (-3 - 1)y^2 = 2x^2 + 3xy - 4y^2$$

Why other options are wrong:

- Option A: xy coefficient is -1 instead of $+3$; the sign of $2xy$ was not reversed



correctly.

- Option B: y^2 coefficient is +4 instead of -4 ; sign error in the last term.
- Option C: x^2 coefficient is 8 instead of 2; the expressions were added instead of subtracted.

Final Answer: $2x^2 + 3xy - 4y^2 \Rightarrow$ D

Answer: (D) [Go Back to Q6](#)

Q7.

Solution

Concept — Algebraic Identity $(a + b)(a - b) = a^2 - b^2$: Rewrite the given product to match the identity, then evaluate.

Step 1 — Express 97×103 **using** $a = 100$, $b = 3$:

$$97 \times 103 = (100 - 3)(100 + 3)$$

Step 2 — Apply the identity:

$$= 100^2 - 3^2 = 10000 - 9 = 9991$$

Why other options are wrong:

- Option B (9981): Corresponds to $10000 - 19$; uses $b^2 = 19$ by error.
- Option C (10001): Adds 3^2 instead of subtracting; sign error.
- Option D (9909): Corresponds to $10000 - 91$; arithmetic mistake.

Final Answer: $97 \times 103 = 9991 \Rightarrow$ A

Answer: (A) [Go Back to Q7](#)

Q8.

Solution

Concept — Factorisation by Splitting the Middle Term: Find two integers whose *sum* equals the coefficient of x and whose *product* equals the constant term.

Step 1 — Identify the required pair for $x^2 + 7x + 12$:



We need two numbers with sum = 7 and product = 12.

$$3 + 4 = 7 \quad \text{and} \quad 3 \times 4 = 12 \quad \checkmark$$

Step 2 — Split the middle term and factorise:

$$x^2 + 7x + 12 = x^2 + 3x + 4x + 12 = x(x + 3) + 4(x + 3) = (x + 3)(x + 4)$$

Why other options are wrong:

- Option A: $(x + 2)(x + 6) = x^2 + 8x + 12 \neq x^2 + 7x + 12$.
- Option C: $(x + 1)(x + 12) = x^2 + 13x + 12 \neq x^2 + 7x + 12$.
- Option D: $(x + 5)(x + 7) = x^2 + 12x + 35 \neq x^2 + 7x + 12$.

Final Answer: $x^2 + 7x + 12 = (x + 3)(x + 4) \Rightarrow \boxed{\text{B}}$

Answer: (B) [Go Back to Q8](#)

Q9.

Solution

Concept — Sum of Interior Angles of a Polygon: For a polygon with n sides:

$$\text{Sum of interior angles} = (n - 2) \times 180^\circ$$

Step 1 — A hexagon has $n = 6$ sides.

Step 2 — Apply the formula:

$$\text{Sum} = (6 - 2) \times 180^\circ = 4 \times 180^\circ = 720^\circ$$

Bonus — Each interior angle of a regular hexagon:

$$\frac{720^\circ}{6} = 120^\circ \text{ per angle}$$

Why other options are wrong:

- Option A (540°): This is $(5 - 2) \times 180^\circ$ — the angle sum of a *pentagon*.
- Option B (900°): This is $(7 - 2) \times 180^\circ$ — the angle sum of a *heptagon*.
- Option D (1080°): This is $(8 - 2) \times 180^\circ$ — the angle sum of an *octagon*.



Final Answer: Sum of interior angles of hexagon = $720^\circ \Rightarrow \boxed{C}$

Answer: (C) [Go Back to Q9](#)

Q10.

Solution

Concept — Triangle Inequality Theorem: Three lengths a, b, c form a triangle if and only if the sum of any two sides is *strictly greater* than the third side.

Step 1 — Test each option:

- **Option A** (3, 4, 8): $3 + 4 = 7$, which is NOT > 8 . **Cannot form a triangle.**
- **Option B** (5, 5, 11): $5 + 5 = 10$, which is NOT > 11 . **Cannot form a triangle.**
- **Option C** (2, 6, 9): $2 + 6 = 8$, which is NOT > 9 . **Cannot form a triangle.**
- **Option D** (6, 8, 10): $6 + 8 = 14 > 10 \checkmark$; $6 + 10 = 16 > 8 \checkmark$; $8 + 10 = 18 > 6 \checkmark$. **Valid triangle.**

Step 2 — Additional note: 6-8-10 is a Pythagorean triple since $6^2 + 8^2 = 36 + 64 = 100 = 10^2$, forming a right-angled triangle.

Why other options are wrong:

- Options A, B, C each fail the triangle inequality for at least one combination of sides.

Final Answer: 6 cm, 8 cm, 10 cm can form a triangle $\Rightarrow \boxed{D}$

Answer: (D) [Go Back to Q10](#)

Q11.

Solution

Concept — RHS Congruence Criterion: Two right-angled triangles are congruent if their hypotenuse and one leg (side) are respectively equal.

Step 1 — List the given information:

- $\angle B = \angle Q = 90^\circ$ (Right angle)
- $AC = PR$ (Hypotenuse of both triangles — the side opposite the right angle)
- $BC = QR$ (One pair of legs equal)



Step 2 — Match with congruence criteria: We have a **Right** angle, an equal Hypotenuse, and one equal **Side**. This is the **RHS criterion**.

Why other options are wrong:

- Option B (SAS): Requires two sides *and* the included angle; the right angle is not included between AC and BC .
- Option C (ASA): Requires two angles and the included side; only one angle is explicitly given.
- Option D (SSS): Requires all three sides; the third side (AB or PQ) is not directly given.

Final Answer: RHS congruence criterion $\Rightarrow$ A

Answer: (A) [Go Back to Q11](#)

Q12.

Solution

Concept — Properties of a Rhombus:

- Opposite angles of a rhombus are **equal**.
- Adjacent angles of a rhombus are **supplementary** (add up to 180°).

Step 1 — Let $\angle A = 70^\circ$. Then opposite angle $\angle C = 70^\circ$.

Step 2 — Find the adjacent angle $\angle B$:

$$\angle B = 180^\circ - \angle A = 180^\circ - 70^\circ = 110^\circ$$

Therefore, opposite angle $\angle D = 110^\circ$.

Step 3 — Verify the total:

$$\angle A + \angle B + \angle C + \angle D = 70^\circ + 110^\circ + 70^\circ + 110^\circ = 360^\circ \quad \checkmark$$

Why other options are wrong:

- Option A: Does not include the given angle of 70° .
- Option C: $70^\circ + 100^\circ = 170^\circ \neq 180^\circ$; adjacent angles must be supplementary.
- Option D: $80^\circ + 100^\circ = 180^\circ$ is correct structurally, but the given angle is 70° , not 80° .



Final Answer: Angles are 70° , 110° , 70° , $110^\circ \Rightarrow$ **B**

Answer: (B) [Go Back to Q12](#)

Q13.

Solution

Concept — Area of a Composite Figure: Find the area by either (i) subtracting the cutout from the full rectangle, or (ii) splitting into simpler rectangles and adding.

Method 1 — Subtraction approach:

$$\text{Full rectangle area} = 10 \times 8 = 80 \text{ cm}^2$$

$$\text{Top-right cutout area} = 4 \times 5 = 20 \text{ cm}^2$$

$$\text{L-shape area} = 80 - 20 = 60 \text{ cm}^2$$

Method 2 — Addition of two rectangles:

$$\text{Bottom strip} = 10 \times 3 = 30 \text{ cm}^2, \quad \text{Left strip} = 6 \times 5 = 30 \text{ cm}^2$$

$$\text{Total} = 30 + 30 = 60 \text{ cm}^2$$

Why other options are wrong:

- Option A (80 cm^2): Area of the full outer rectangle without removing the cutout.
- Option B (72 cm^2): Incorrect; does not correspond to any standard decomposition.
- Option D (40 cm^2): Significantly underestimates by using only part of the shape.

Final Answer: Area of L-shaped figure = $60 \text{ cm}^2 \Rightarrow$ **C**

Answer: (C) [Go Back to Q13](#)



Q14.

Solution

Concept — Perimeter of a Rectangle: $P = 2(l + b)$, where l is the length and b is the breadth.

Step 1 — Substitute the known values ($P = 68$ cm, $l = 20$ cm):

$$68 = 2(20 + b)$$

Step 2 — Solve for b :

$$34 = 20 + b \implies b = 34 - 20 = 14 \text{ cm}$$

Verification: $P = 2(20 + 14) = 2 \times 34 = 68 \text{ cm} \checkmark$

Why other options are wrong:

- Option A (28 cm): $P = 2(20 + 28) = 96 \neq 68$.
- Option B (17 cm): $P = 2(20 + 17) = 74 \neq 68$.
- Option C (34 cm): This is the value of $l + b$ (i.e., half the perimeter), not the breadth alone.

Final Answer: Breadth = 14 cm $\Rightarrow$ D

Answer: (D) [Go Back to Q14](#)

Q15.

Solution

Concept — Volume of a Cylinder: $V = \pi r^2 h$

Step 1 — Substitute $r = 7$ cm, $h = 10$ cm, $\pi = \frac{22}{7}$:

$$V = \frac{22}{7} \times 7^2 \times 10 = \frac{22}{7} \times 49 \times 10$$

Step 2 — Simplify by cancelling:

$$V = 22 \times \frac{49}{7} \times 10 = 22 \times 7 \times 10 = 154 \times 10 = 1540 \text{ cm}^3$$

Why other options are wrong:



- Option B (1320 cm^3): Corresponds to $r = 6 \text{ cm}$ with $h = 10$: $\frac{22}{7} \times 36 \times 10 \approx 1131 \neq 1320$; arithmetic error.
- Option C (1760 cm^3): Would require $r = 8 \text{ cm}$ (since $\frac{22}{7} \times 64 \times 10 \approx 2011$); not achievable with these inputs.
- Option D (770 cm^3): Exactly half the correct answer; error of dividing by 2.

Final Answer: Volume = $1540 \text{ cm}^3 \Rightarrow \boxed{\text{A}}$

Answer: (A) [Go Back to Q15](#)

Q16.

Solution

Concept — Value Added Tax (VAT): Total amount paid = Cost Price + VAT amount, where VAT amount = VAT% $\times$ Cost Price.

Step 1 — Calculate VAT:

$$\text{VAT} = \frac{12}{100} \times 1200 = \text{Rs. } 144$$

Step 2 — Find total amount paid:

$$\text{Total} = 1200 + 144 = \text{Rs. } 1344$$

Why other options are wrong:

- Option A (Rs. 1212): Corresponds to VAT of only Rs. 12 (i.e., 1%), not 12%.
- Option C (Rs. 1440): Corresponds to VAT = 20% of Rs. 1200; overestimates the rate.
- Option D (Rs. 1260): Corresponds to VAT of Rs. 60, which is 5%, not 12%.

Final Answer: Total amount paid = Rs. 1344 $\Rightarrow \boxed{\text{B}}$

Answer: (B) [Go Back to Q16](#)



Q17.

Solution**Concept — Discount and Selling Price:**

$$\text{Discount} = \frac{\text{Discount \%}}{100} \times \text{Marked Price}, \quad \text{Selling Price} = \text{MP} - \text{Discount}$$

Step 1 — Calculate the discount:

$$\text{Discount} = \frac{15}{100} \times 750 = \text{Rs. } 112.50$$

Step 2 — Find the selling price:

$$\text{SP} = 750 - 112.50 = \text{Rs. } 637.50$$

Alternate method: $\text{SP} = (100 - 15)\% \text{ of MP} = 85\% \text{ of } 750 = 0.85 \times 750 = \text{Rs. } 637.50$ **Why other options are wrong:**

- Option A (Rs. 600): Corresponds to a 20% discount (Rs. 150 off).
- Option B (Rs. 625): Corresponds to approximately 16.7% discount.
- Option D (Rs. 650): Corresponds to approximately 13.3% discount.

Final Answer: Selling Price = Rs. 637.50 $\Rightarrow$ CAnswer: (C) [Go Back to Q17](#)

Q18.

Solution**Concept — Simple Interest Formula:**

$$\text{SI} = \frac{P \times R \times T}{100}$$

$$\text{Rearranging to find rate: } R = \frac{\text{SI} \times 100}{P \times T}$$

Step 1 — Substitute $P = 4000$, $\text{SI} = 960$, $T = 3$:

$$R = \frac{960 \times 100}{4000 \times 3} = \frac{96000}{12000} = 8\%$$



Verification: $SI = \frac{4000 \times 8 \times 3}{100} = \frac{96000}{100} = 960 \checkmark$

Why other options are wrong:

- Option A (6%): $SI = \frac{4000 \times 6 \times 3}{100} = 720 \neq 960$.
- Option B (7%): $SI = \frac{4000 \times 7 \times 3}{100} = 840 \neq 960$.
- Option C (9%): $SI = \frac{4000 \times 9 \times 3}{100} = 1080 \neq 960$.

Final Answer: Rate of interest = 8% per annum $\Rightarrow$ D

Answer: (D) [Go Back to Q18](#)

Q19.

Solution

Concept — Mode: The mode is the value that occurs most frequently in the data set.

Step 1 — Write the data and count the frequency of each value:

Data: 4, 7, 4, 9, 4, 11, 7, 7, 9, 4

Value	Frequency
4	4
7	3
9	2
11	1

Step 2 — Identify the value with the highest frequency:

The value 4 appears 4 times — more than any other value.

Why other options are wrong:

- Option B (7): Appears only 3 times; less frequent than 4.
- Option C (9): Appears only 2 times.
- Option D (11): Appears only 1 time.

Final Answer: Mode = 4 $\Rightarrow$ A

Answer: (A) [Go Back to Q19](#)



Q20.

Solution

Concept — Reading a Frequency Table: Identify the categories that satisfy the given condition, then sum their frequencies.

Step 1 — Reproduce the frequency table:

Marks	10	20	30	40	50
No. of Students	4	6	8	7	5

Step 2 — Identify students scoring *more than* 20 marks (i.e., marks $\in \{30, 40, 50\}$):

$$8 + 7 + 5 = 20 \text{ students}$$

Verification: Total students $= 4 + 6 + 8 + 7 + 5 = 30 \checkmark$

Why other options are wrong:

- Option A (15): Counts only marks 30 and 40 ($8 + 7 = 15$), omitting students who scored 50.
- Option C (22): No standard interpretation yields 22 from this table.
- Option D (25): Would include students scoring 20 marks ($6 + 8 + 7 + 5 = 26 \neq 25$); inconsistent.

Final Answer: 20 students scored more than 20 marks $\Rightarrow$ **B**

Answer: (B) [Go Back to Q20](#)



Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	C	2	D	3	A	4	B	5	C
6	D	7	A	8	B	9	C	10	D
11	A	12	B	13	C	14	D	15	A
16	B	17	C	18	D	19	A	20	B

