SAMP 1 (2026-27)	
CLASS - 6	SUBJECT: MATHEMATICS
Q NO	**ANSWER KEY**
1	A
2	A
3	C
4	B
5	D
6	A
7	D
8	C
9	D
10	D
11	D
12	C
13	C
14	A
15	B
16	If the student writes Identifies subtraction: 60 L 000 ml – 33 L 450 ml (correct setup with unit conversion) (1 mark) Correct answer: 26 litres 550 ml (or 26,550 ml) (1 mark
17	12-Hour 24-Hour Explanation Marks 9:40 PM 21:40 Hours 9 + 12 = 21 (1/2 mark) 3:20 PM 15:20 Hours 3 + 12 = 15 (1/2 mark) 6:25 AM 6:25 Hours AM stays same (1/2 mark) 6:25 PM 18:25 Hours 6 + 12 = 18 (1/2 mark)
18	If the student writes a) 12 (1 mark) b) 60 (1 mark) c) 12 (1 mark) d) 4 (1 mark)
19	If the student writes step1: finds total sweets: 15 × 8 = 120 (1 mark) step 2: Sets up division: 120 ÷ 6 (1 mark) step 3: Performs division correctly: 120 ÷ 6 = 20 (1 mark) step 4: Writes answer with statement: 20 boxes (1 mark)
20	If the student identifies and write Clock 1: 7:00 → 5 x 30^0 = 150^0 → Obtuse Angle (2 marks) Clock 2: 10:00 → 2 x 30^0 = 60^0 → Acute angle (2 marks) Clock 3: 9:00 →3 x 30^0 = 90^0 → Right angle (2 marks) Clock 4: 4:00 → 4 x 30^0 = 120^0 → Obtuse angle (2 marks) (OR) B) If the student identify and writes a) Grand Father (10 members) (2 marks) b) 30 (2 marks) c) 30 – 20 = 10 more (2 marks) d) 20 + 30 + 15 + 10 = 75(2 marks)

SAMP 1 (2026-27)	
CLASS - 7	SUBJECT: MATHEMATICS
Q NO	ANSWER KEY
1	B
2	C
3	C
4	B
5	B
6	D
7	A
8	C
9	C
10	B
11	C
12	A
13	C
14	C
15	B
16	If the student writes a) 9,876,543,210 (1 mark) b) 1,023,456,798 (1 mark)
17	If the student Clear explanation that it is a combination of numbers/variables and mathematical operators +, -, ×, ÷ that evaluates to a number. (1 mark) A valid example: e.g., 5 + 3 × 2, or 12 − 4 + 7, or (8 ÷ 2) + 6 (1 mark)
18	If the student writes a) Cost for 4 adults: 4 × 40 = ₹160 and Cost for 3 children: 3 × 20 = ₹60; Total = 160 + 60 = ₹220 (2 marks) b) Identifies: 2 groups × 3 adults each = 6 adults total and Cost: 6 × 40 = ₹240 (2 marks)
19	If the student writes the addition: 2 7/10 + 3 6/10 (1 mark) Adds whole numbers: 2 + 3 = 5 (1 mark) Adds fractions: 7/10 + 6/10 = 13/10 = 1 3/10 (1 mark) Combines: 5 + 1 3/10 = 6 3/10 units (1 mark)

20	If the student writes a) (Indian name)40,50,678 → Forty lakh fifty thousand six hundred seventy-eight (1 mark) (American name) 4,050,678 → Four million fifty thousand six hundred seventy-eight (1 mark) b) (Indian name) 4,81,21,620 → Four crore eighty-one lakh twenty-one thousand six hundred twenty (1 mark) (American name) 48,121,620 → Forty-eight million one hundred twenty-one thousand six hundred twenty (1 mark) c) (Indian name) 20,02,202→ Twenty lakh two thousand two hundred two (1 mark) (American name) 2,002,202 → Two million two thousand two hundred two (1 mark) d) (Indian name) 24,68,13,579→ Twenty-four crore sixty-eight lakh thirteen thousand five hundred seventy-nine (1 mark) (American name) 246,813,579 → Two hundred forty-six million eight hundred thirteen thousand five hundred seventy-nine (1 mark) (OR) B) a) $(16 - 11) \times 12 = -11 \times 12 + 16 \times 12$ (2 marks) b) $(76 - 53) \times 88 > 88 \times (53 - 76)$ (2 marks) c) $25 \times (42 + 16) = 25 \times (43 + 15)$ (2 marks) d) $23 \times 48 - 35 > 23 \times (48 - 35)$ (2 marks)

SAMP 1 (2026-27)	
CLASS - 8	SUBJECT: MATHEMATICS
Q NO	**ANSWER KEY**
1	B
2	C
3	D
4	C
5	A
6	C
7	A
8	C
9	B
10	B
11	A
12	B
13	D
14	D
15	C
16	Area of square = side² (1 M) side = √441 = 21 m (1 M) Answer: 21 m Uses area = side², 1 M Finds side = 21 m, 1 M
17	1729 = 1000 + 700 + 20 + 9 (1 M) = M + DCC + XX + IX = MDCCXXIX (1 M) Answer: MDCCXXIX Correct decomposition, 1 M Correct Roman numeral, 1 M
18	9408 = $2^6 \times 3 \times 7^2$ (1 M) The power of 3 is odd, so multiply by 3. (1 M) 9408 × 3 = 28224 = $2^6 \times 3^2 \times 7^2$ (1 M) √28224 = $2^3 \times 3 \times 7$ = 168 (1 M) Answer: Smallest number = 3 Square root = 168
19	ONE POSSIBILITY $64^3 = (2^6)^3 = 2^{18}$ (1 M) $2^{18} = 2^6 \times 2^{12}$ (1 M) $32^{-5} = (2^5)^{-5} = 2^{-25}$ (1 M) $2^{-25} = 2^{-10} \times 2^{-15}$ (1 M)

20	A (i)1323 = $3^3 \times 7^2$ (1 M) For a perfect cube, each prime exponent must be a multiple of 3. (1 M) The exponent of 7 is 2, so one more factor of 7 is required. (1 M) 1323 × 7 = $3^3 \times 7^3 = 21^3$ (1 M) Therefore, the required number = 7. (ii)10648 = $2^3 \times 11^3$ (1 M) $\sqrt[3]{10648} = \sqrt[3]{(2^3 \times 11^3)}$ (1 M) = 2 × 11 (1 M) = 22 (1 M) Answer: 22 B (i)Numbers that are both squares and cubes 64 = $8^2 = 4^3$ (1 M) For a number to be both a square and a cube, each prime exponent must be divisible by both 2 and 3. (1 M) LCM(2, 3) = 6. (1 M) Therefore, such numbers have the general form n^6. (1 M) (ii)65,950 = 6.595×10^4 (1 M) 34,30,000 = 3.43×10^6 (1 M) Both coefficients are between 1 and 10. (1 M) Therefore, the required standard forms are 6.595×10^4 and 3.43×10^6. (1 M)

SAMP 1 (2026-27)	
CLASS - 9	SUBJECT: MATHEMATICS
Q NO	**ANSWER KEY**
1	C
2	A
3	C
4	C
5	B
6	D
7	A
8	B
9	D
10	B
11	C
12	B
13	C
14	B
15	A
16	Take the average of 3 and 4: (3 + 4) ÷ 2 = 7/2 (1 M) Take another rational number, 13/4, which lies between 3 and 4. (1 M) Answer: 7/2 and 13/4 Correct first rational number, 1 M Correct second rational number, 1 M
17	Let $p(x) = x^2 - 2x$. $p(2) = 2^2 - 2(2) = 4 - 4 = 0$ (1 M) $p(0) = 0^2 - 2(0) = 0$ (1 M) Therefore, 2 and 0 are zeroes of the polynomial. Verifies p(2) = 0, (1 M) Verifies p(0) = 0, (1 M)
18	$(2 + \sqrt{3}) + 1/(2 + \sqrt{3})$ Rationalise the denominator: $(1/(2 + \sqrt{3})) \times (2 - \sqrt{3})/(2 - \sqrt{3})$ (1 M) $= (2 - \sqrt{3})/(4 - 3) = 2 - \sqrt{3}$ (1 M) Therefore, $(2 + \sqrt{3}) + (2 - \sqrt{3})$ (1 M) = 4 (1 M) Answer: 4 Applies rationalising factor, 1 M Simplifies the denominator, 1 M Obtains $2 - \sqrt{3}$, 1 M Gets final answer 4, 1 M

19	At A, draw a perpendicular and take AB = 1 unit. Join OB. Then OB = √2. (1 M) At the point representing √2, draw a perpendicular of length 1 unit and join its endpoint to O. The new length is √3. (1 M) With O as centre and radius equal to √3, cut the number line at P. Point P represents √3. (1 M) Answer: P represents √3. Constructs √2, 1 M Constructs the right triangle with sides √2 and 1, 1 M Obtains √3 as the hypotenuse, 1 M Transfers √3 to the number line correctly, 1 M
20	A) ONE POSSIBLE SOLUTION (i) Use the identity: $x^3 + y^3 + z^3 - 3xyz = (x + y + z)(x^2 + y^2 + z^2 - xy - yz - zx)$ (1 M) Given $x + y + z = 0$. (1 M) Therefore, $x^3 + y^3 + z^3 - 3xyz = 0$ (1 M) Hence, $x^3 + y^3 + z^3 = 3xyz$ (1 M) States the identity, 1 M Uses $x + y + z = 0$, 1 M Obtains the expression equal to 0, 1 M Proves $x^3 + y^3 + z^3 = 3xyz$, 1 M ii) Factorise $27m^3 + 125n^3$ $27m^3 + 125n^3 = (3m)^3 + (5n)^3$ (1 M) Using $a^3 + b^3 = (a + b)(a^2 - ab + b^2)$ (1 M) $= (3m + 5n)[(3m)^2 - (3m)(5n) + (5n)^2]$ (1 M) $= (3m + 5n)(9m^2 - 15mn + 25n^2)$ (1 M) Answer: $(3m + 5n)(9m^2 - 15mn + 25n^2)$ Expresses terms as cubes, 1 M States/applies sum of cubes identity, 1 M Substitutes correctly, 1 M Obtains final factors, 1 M $105 \times 106 = (100 + 5)(100 + 6)$ (1 M) $= 100^2 + (5 + 6)100 + 5 \times 6$ (1 M) $= 10000 + 1100 + 30$ (1 M) $= 11130$ (1 M)