CLASS VIII – MATHEMATICS

Chapter Test: Fractions in Disguise – Step-by-Step Solutions & Marking Scheme

(Ganita Prakash, Grade 8, Part II – Chapter 1)

M. M.: 40 | Marks for each step are shown in square brackets.

Section A – Multiple Choice Questions (1 mark each)

Q.	Ans.	Solution
1	**(B)**	7/20 × 100 = 7 × 5 = **35%**.
2	**(C)**	15% of 80 = 10% (8) + 5% (4) = **12**.
3	**(A)**	Decreased by 20% means 80% of the number = 40, so the number = 40 ÷ 0.8 = **50**.
4	**(D)**	SI = 5000 × 0.08 × 2 = 800; amount = 5000 + 800 = **₹5,800**.
5	**(B)**	10000 × 1.1 × 1.1 = 10000 × 1.21 = **₹12,100**.
6	**(C)**	Decrease = 20; 20/80 × 100 = **25%**.
7	**(A)**	Selling price = 80% of 600 = 0.8 × 600 = **₹480**.
8	**(D)**	Value after 1 year = 90% of 50,000 = 0.9 × 50,000 = **₹45,000**.
9	**(C)**	The shop earned ₹5,000 out of a target of ₹4,000: 5000/4000 × 100 = **125%** (the extra part beyond the dashed line is 25%).
10	**(B)**	Profit = 250 − 200 = ₹50 (the yellow part); profit % = 50/200 × 100 = **25%**.

Section B – Very Short Answer Questions (2 marks each)

Q11. Trekker (Fig. 3)

(i) 35% of the trail = 7 km, so 5% = 1 km and 100% = 20 × 1 = **20 km**. (Or: 7 ÷ 0.35 = 20.) [1]

(ii) Remaining = 20 − 7 = **13 km** (this is 65% of the trail). [1]

Q12.

(A) 7/8 × 100 = 87.5%. So 7/8 = **87.5%**. [1]

62.5% = 62.5/100 = 625/1000 = **5/8**. [1]

(B) Convert all to percentages: 3/5 = 60%, 0.58 = 58%, 55%. [1]

Ascending order: 55% < 58% < 60%, i.e. **55%, 0.58, 3/5**. [1]

Q13.

GST = 18% of 850 = 0.18 × 850 = **₹153**. [1]

Final price = 850 + 153 = **₹1,003**. (Also 850 × 1.18 = 1003.) [1]

Section C – Short Answer Questions (3 marks each)

Q14. Grid (Fig. 4)

(i) Out of 100 squares, 35 are blue and 25 are yellow, so blue = **35%** and yellow = **25%**. [1]

(ii) Not shaded = 100 − (35 + 25 + 12) = 28 squares; fraction = 28/100 = **7/25**. [1]

(iii) 25% of 600 = (1/4) × 600 = **150 students**. [1]

Q15.

(A) Discount = 10% of 60 = ₹6. Selling price = 60 − 6 = **₹54**. [1½]

Profit = 54 − 40 = ₹14; profit % = 14/40 × 100 = **35%**. [1½]

(B) Maths: 36/45 × 100 = 80%. Hindi: 45/60 × 100 = 75%. [1½]

Science: 42/50 × 100 = 84%. The highest is 84%, so she performed best in **Science**. [1½]

Q16.

(A) SI = 8000 × 0.05 × 2 = **₹800**. [1]

Amount with compounding = 8000 × 1.05 × 1.05 = 8000 × 1.1025 = ₹8,820, so CI = 8820 − 8000 = **₹820**. [1½]

Difference = 820 − 800 = **₹20**. [½]

(B) Value after 1 year = 80,000 × 0.9 = ₹72,000. [1½]

Value after 2 years = 72,000 × 0.9 = **₹64,800**. (Or 80000 × 0.81.) [1½]

Q17.

(A) After 20% increase: 50,000 × 1.2 = ₹60,000. [1]

After 20% decrease: 60,000 × 0.8 = **₹48,000**. [1]

Overall change = a decrease of ₹2,000; 2000/50000 × 100 = **4% decrease**. [1]

(B) First 25% off ₹800: 800 × 0.75 = ₹600. [1]

Second 25% off ₹600: 600 × 0.75 = ₹450. A single 50% discount gives ₹400. [1]

₹450 ≠ ₹400, so Ananya is **not right**; the two discounts together equal only 350/800 × 100 = 43.75%. [1]

Section D – Long Answer / Case-based Questions (4 marks each)

Q18.

(A) (i) Marked price = 140% of 2000 = **₹2,800**. [1]

(ii) Discount = 25% of 2800 = **₹700**. [1]

(iii) Selling price = 2800 − 700 = **₹2,100**; profit = 100; profit % = 100/2000 × 100 = **5%**. [1]

(iv) With 30% discount: SP = 70% of 2800 = ₹1,960, which is less than ₹2,000. Loss = 40; loss % = 40/2000 × 100 = **2% loss**. [1]

(B) (i) 85% of the original price = 25,500, so original price = 25,500 ÷ 0.85 = **₹30,000**. [2]

(ii) GST = 18% of 25,500 = ₹4,590; final bill = 25,500 + 4,590 = **₹30,090**. [2]

Q19.

(A) (i) Interest per year = 20,000 × 0.10 = ₹2,000; for 3 years = ₹6,000. Amount = 20,000 + 6,000 = **₹26,000**. [1]

(ii) Amount with compounding = $20,000 \times (1.1)^3 = 20,000 \times 1.331$ [1]

= **₹26,620**. [1]

(iii) Extra gain = 26,620 − 26,000 = **₹620**. [1]

(B) (i) Population = $50,000 \times (1.04)^2 = 50,000 \times 1.0816$ [1] = **54,080**. [1]

(ii) Population = $50,000 \times (0.96)^2 = 50,000 \times 0.9216$ [1] = **46,080**. [1]

Q20. Case Study: Anand's Bakery

(i) Increase = 700 − 500 = 200; 200/500 × 100 = **40%**. [1]

(ii) Discount = 10% of 700 = 70; selling price = 700 − 70 = **₹630**. [1]

(iii) Profit = 630 − 500 = 130; profit % = 130/500 × 100 = **26%**. [1]

(iv) GST = 5% of 630 = ₹31.50; total bill = 630 + 31.50 = **₹661.50**. [1]

Note for teachers: Award full marks for any correct alternative method (for example, a bar model or a multiplication factor such as 1.18). Percentage profit and loss are calculated on the cost price. Units (₹, km, %) must be written in the final answers.