UNIQUE STUDY POINT

By Sumeet Sahu

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Unique Study Point, Amitesh Nagar, Indore, MP | Contact: 8103405051

Class: VI	**Subject:** Mathematics	**Session:** 2025-26
Chapter: 07 - Fractions	**Time:** 1½ Hours	**Max. Marks:** 40

General Instructions:

1. All questions are compulsory.
2. This question paper contains 20 questions divided into five sections A, B, C, D and E.
3. Section A contains 10 MCQs of 1 mark each.
4. Section B contains 4 questions of 2 marks each.
5. Section C contains 3 questions of 3 marks each.
6. Section D contains 1 question of 5 marks.
7. Section E contains 2 Case Study Based questions of 4 marks each.

SECTION A - Multiple Choice Questions (1 mark each)

Q1. When one roti is divided equally between 2 children, each child gets:

(a) $^{1}/_{3}$ roti

(b) $^{1}/_{2}$ roti

(c) $^{1}/_{4}$ roti

(d) 2 rotis

Q2. Which of the following is a fractional unit?

(a) $^{2}/_{3}$

(b) $^{1}/_{5}$

(c) $^{3}/_{4}$

(d) $^{5}/_{2}$

Q3. In the fraction $^{5}/_{7}$, the numerator is:

(a) 5

(b) 7

(c) 12

(d) 2

Q4. Which fraction is greater than 1?

(a) $^{3}/_{4}$

(b) $^{7}/_{8}$

(c) $^{9}/_{7}$

(d) $^{2}/_{3}$

Q5. The equivalent fraction of $^1/_2$ is:

(a) $^2/_3$
(b) $^2/_4$
(c) $^1/_3$
(d) $^3/_5$

Q6. The simplest form of $^8/_{12}$ is:

(a) $^4/_6$
(b) $^2/_3$
(c) $^1/_2$
(d) $^3/_4$

Q7. How many fractional units are there in $^3/_4$?

(a) 3
(b) 4
(c) 7
(d) 12

Q8. Which fraction is smaller: $^1/_5$ or $^1/_3$?

(a) $^1/_5$
(b) $^1/_3$
(c) Both are equal
(d) Cannot be determined

Q9. $^1/_4 + {}^1/_4 = ?$

(a) $^1/_8$
(b) $^2/_4$
(c) $^2/_8$
(d) $^1/_2$

Q10. The mixed fraction for $^9/_4$ is:

(a) $2^1/_4$
(b) $1^3/_4$
(c) $3^1/_4$
(d) $4^1/_2$

SECTION B - Short Answer Questions (2 marks each)

Q11. Three guavas together weigh 1 kg. If they are roughly of the same size, how much does each guava weigh?

Q12. Write two equivalent fractions for $^3/_6$.

Q13. Compare the fractions $^2/_5$ and $^3/_7$ and identify which is greater.

Q14. Express $^{15}/_5$ as a mixed fraction.

SECTION C - Short Answer Questions (3 marks each)

Q15. Add the following fractions: $^{2}/_{7} + {}^{3}/_{7} + {}^{1}/_{7}$

Q16. Subtract $^{5}/_{9}$ from $^{8}/_{9}$. Express the answer in simplest form.

Q17. Find equivalent fractions of $^{2}/_{3}$ and $^{3}/_{4}$ with denominator 12, then add them.

SECTION D - Long Answer Question (5 marks)

Q18. A wholesale merchant packed 1 kg of rice in four packets of equal weight. He sold two packets to customer A and one packet to customer B.

(a) What is the weight of each packet?

(b) How much rice did customer A buy?

(c) How much rice did customer B buy?

(d) How much rice is left with the merchant?

(e) Express your answers as fractions in simplest form.

SECTION E - Case Study Based Questions (4 marks each)

Q19. Case Study 1: Sharing Chikki

Meena's father made 2 chikkis of equal size. Meena ate $^{1}/_{2}$ of one chikki and her younger brother ate $^{1}/_{4}$ of the same chikki.

(a) How much of the first chikki did Meena and her brother eat together? (1 mark)

(b) How much of the first chikki is remaining? (1 mark)

(c) If they share the second chikki equally, how much will each get? (1 mark)

(d) What is the total amount of chikki consumed by both children? (1 mark)

Q20. Case Study 2: Measuring Using Fractions

Jaya's school is $^{7}/_{10}$ km from her home. She takes an auto for $^{1}/_{2}$ km from her home daily, and then walks the remaining distance to reach her school.

(a) How much distance does she walk daily to reach school? (1 mark)

(b) Express both distances with the same denominator. (1 mark)

(c) What fraction of the total distance does she travel by auto? (1 mark)

(d) If she takes the same route back home, what is the total distance she walks in a day? (1 mark)

DETAILED ANSWER KEY - PAPER 01

SECTION A - Answers to MCQs

Ans 1. (b) $^1/_2$ roti

When 1 roti is divided equally between 2 children, each child gets half (one out of two equal parts).

Ans 2. (b) $^1/_5$

A fractional unit has numerator 1. Among the options, only $^1/_5$ is a fractional unit.

Ans 3. (a) 5

In a fraction, the top number is the numerator. In $^5/_7$, the numerator is 5.

Ans 4. (c) $^9/_7$

A fraction is greater than 1 when the numerator is greater than the denominator. Here, 9 > 7.

Ans 5. (b) $^2/_4$

$^1/_2 = {}^{1\times2}/_{2\times2} = {}^2/_4$. These fractions represent the same value.

Ans 6. (b) $^2/_3$

$^8/_{12} = {}^{8\div4}/_{12\div4} = {}^2/_3$ (dividing both numerator and denominator by their HCF, which is 4).

Ans 7. (a) 3

$^3/_4$ means 3 times the fractional unit $^1/_4$. So there are 3 fractional units.

Ans 8. (a) $^1/_5$

When comparing unit fractions, the one with the larger denominator is smaller. Since 5 > 3, we have $^1/_5 < {}^1/_3$.

Ans 9. (b) $^2/_4$

$^1/_4 + {}^1/_4 = {}^{1+1}/_4 = {}^2/_4$ (or $^1/_2$ in simplest form).

Ans 10. (a) $2^1/_4$

$^9/_4 = {}^{8+1}/_4 = {}^8/_4 + {}^1/_4 = 2 + {}^1/_4 = 2^1/_4$

SECTION B - Answers to Short Answer Questions

Ans 11.

Total weight = 1 kg

Number of guavas = 3

Weight of each guava = $^1/_3$ kg

Since the 3 guavas are roughly of the same size and weigh 1 kg together, each guava weighs one-third of a kilogram.

Ans 12.

Given fraction: $^{3}/_{6}$

First equivalent fraction: $^{3\times2}/_{6\times2} = {}^{6}/_{12}$

Second equivalent fraction: $^{3\div3}/_{6\div3} = {}^{1}/_{2}$

Two equivalent fractions are $^{6}/_{12}$ and $^{1}/_{2}$.

Ans 13.

To compare $^{2}/_{5}$ and $^{3}/_{7}$, we make denominators equal.

LCM of 5 and 7 = 35

$^{2}/_{5} = {}^{2\times7}/_{5\times7} = {}^{14}/_{35}$

$^{3}/_{7} = {}^{3\times5}/_{7\times5} = {}^{15}/_{35}$

Since 15 > 14, we have $^{15}/_{35} > {}^{14}/_{35}$

Therefore, $^{3}/_{7} > {}^{2}/_{5}$

Ans 14.

$^{15}/_{5} = 15 \div 5 = 3$

Since $^{15}/_{5} = 3$, which is a whole number, it cannot be expressed as a proper mixed fraction.

However, if we must write it: $3 = 3^{0}/_{5}$ or simply 3

SECTION C - Answers to Short Answer Questions

Ans 15.

$^{2}/_{7} + {}^{3}/_{7} + {}^{1}/_{7}$

Since all fractions have the same denominator, we add the numerators:

$= {}^{2+3+1}/_{7}$

$= {}^{6}/_{7}$

Answer: $^{6}/_{7}$

Ans 16.

$^{8}/_{9} - {}^{5}/_{9}$

Since both fractions have the same denominator, we subtract the numerators:

$= {}^{8-5}/_{9}$

$= {}^{3}/_{9}$

Simplifying: $^{3}/_{9} = {}^{3\div3}/_{9\div3} = {}^{1}/_{3}$

Answer: $^{1}/_{3}$

Ans 17.

Step 1: Convert both fractions to equivalent fractions with denominator 12

$^{2}/_{3} = {}^{2\times4}/_{3\times4} = {}^{8}/_{12}$

$^{3}/_{4} = {}^{3\times3}/_{4\times3} = {}^{9}/_{12}$

Step 2: Add the equivalent fractions

$^{8}/_{12} + {}^{9}/_{12} = {}^{8+9}/_{12} = {}^{17}/_{12}$

Step 3: Express as mixed fraction

$^{17}/_{12} = 1{}^{5}/_{12}$

Answer: $^{17}/_{12}$ or $1{}^{5}/_{12}$

SECTION D - Answer to Long Answer Question

Ans 18.

(a) Weight of each packet:

Total rice = 1 kg

Number of packets = 4

Weight of each packet = $^{1}/_{4}$ kg

(b) Rice bought by customer A:

Customer A bought 2 packets

Weight = 2 × $^{1}/_{4} = {}^{2}/_{4} = {}^{1}/_{2}$ kg

(c) Rice bought by customer B:

Customer B bought 1 packet

Weight = 1 × $^{1}/_{4} = {}^{1}/_{4}$ kg

(d) Rice left with merchant:

Total packets sold = 2 + 1 = 3 packets

Packets remaining = 4 - 3 = 1 packet

Weight remaining = $^{1}/_{4}$ kg

Alternatively: $^{1}/_{2} + {}^{1}/_{4} = {}^{2}/_{4} + {}^{1}/_{4} = {}^{3}/_{4}$ kg sold

Remaining = 1 - $^{3}/_{4} = {}^{4}/_{4} - {}^{3}/_{4} = {}^{1}/_{4}$ kg

(e) All answers are already in simplest form:

Each packet: $^{1}/_{4}$ kg, Customer A: $^{1}/_{2}$ kg, Customer B: $^{1}/_{4}$ kg, Remaining: $^{1}/_{4}$ kg

SECTION E - Answers to Case Study Based Questions

Ans 19. **Case Study 1: Sharing Chikki**

(a) Total chikki eaten from first chikki:

Meena ate = $^{1}/_{2}$

Brother ate = $^{1}/_{4}$

Total = $^{1}/_{2}$ + $^{1}/_{4}$ = $^{2}/_{4}$ + $^{1}/_{4}$ = $^{3}/_{4}$

(b) Chikki remaining from first chikki:

Remaining = 1 - $^{3}/_{4}$ = $^{4}/_{4}$ - $^{3}/_{4}$ = $^{1}/_{4}$

(c) Second chikki shared equally:

Number of children = 2

Each child gets = $^{1}/_{2}$ of the second chikki

(d) Total chikki consumed by both:

From first chikki = $^{3}/_{4}$

From second chikki = 1 (whole)

Total = $^{3}/_{4}$ + 1 = $^{3}/_{4}$ + $^{4}/_{4}$ = $^{7}/_{4}$ = $1^{3}/_{4}$

Ans 20. Case Study 2: Measuring Using Fractions

(a) Walking distance to school:

Total distance = $^{7}/_{10}$ km

Distance by auto = $^{1}/_{2}$ km

Walking distance = $^{7}/_{10}$ - $^{1}/_{2}$

= $^{7}/_{10}$ - $^{5}/_{10}$ = $^{2}/_{10}$ = $^{1}/_{5}$ km

(b) Both distances with same denominator:

LCM of 10 and 2 = 10

Auto distance: $^{1}/_{2}$ = $^{5}/_{10}$ km

Total distance: $^{7}/_{10}$ km

(c) Fraction of distance by auto:

Fraction = $^{\text{Distance by auto}}/_{\text{Total distance}}$ = $^{5}/_{10}/^{7}/_{10}$ = $^{5}/_{10}$ × $^{10}/_{7}$ = $^{5}/_{7}$

(d) Total walking distance in a day:

Walking distance one way = $^{1}/_{5}$ km

Walking distance for return = $^{1}/_{5}$ km

Total walking in a day = $^{1}/_{5}$ + $^{1}/_{5}$ = $^{2}/_{5}$ km

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