UNIQUE STUDY POINT

By Sumeet Sahu

www.uniquestudyonline.com

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. If one roti is shared equally among 4 children, each child gets:

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

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

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

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

Q2. In the fraction $^{3}/_{8}$, the denominator is:

(a) 3

(b) 8

(c) 11

(d) 5

Q3. Which of the following is NOT a unit fraction?

(a) $^{1}/_{7}$

(b) $^{1}/_{9}$

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

(d) $^{1}/_{100}$

Q4. The fraction $^{6}/_{6}$ is equal to:

(a) 0

(b) 1

(c) 6

(d) $^{1}/_{6}$

Q5. Which is the largest fraction among the following?

(a) $^{1}/_{2}$

(b) $^{1}/_{3}$

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

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

Q6. The simplest form of $^{15}/_{20}$ is:

(a) $^{5}/_{4}$

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

(c) $^{15}/_{10}$

(d) $^{3}/_{5}$

Q7. $^{7}/_{5}$ can be written as a mixed fraction as:

(a) $1^{2}/_{5}$

(b) $2^{1}/_{5}$

(c) $1^{3}/_{5}$

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

Q8. $^{3}/_{5} + {}^{1}/_{5} = ?$

(a) $^{4}/_{10}$

(b) $^{4}/_{5}$

(c) $^{3}/_{6}$

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

Q9. $^{5}/_{6} - {}^{2}/_{6} = ?$

(a) $^{3}/_{6}$

(b) $^{3}/_{12}$

(c) $^{7}/_{6}$

(d) $^{3}/_{0}$

Q10. Which of the following pairs are equivalent fractions?

(a) $^{2}/_{3}$ and $^{4}/_{6}$

(b) $^{1}/_{2}$ and $^{2}/_{3}$

(c) $^{3}/_{4}$ and $^{4}/_{5}$

(d) $^{1}/_{3}$ and $^{1}/_{6}$

SECTION B - Short Answer Questions (2 marks each)

Q11. Four friends ordered 3 glasses of sugarcane juice and shared it equally among themselves. How much juice did each friend drink?

Q12. Write the fraction $^{21}/_{28}$ in its simplest form.

Q13. Arrange the following fractions in ascending order: $^{1}/_{4}$, $^{1}/_{2}$, $^{3}/_{4}$, $^{1}/_{8}$

Q14. Convert the mixed fraction $3^{2}/_{5}$ into an improper fraction.

SECTION C - Short Answer Questions (3 marks each)

Q15. Add: $^{1}/_{3} + {}^{1}/_{4} + {}^{1}/_{6}$

Q16. Subtract $^{4}/_{15}$ from $^{2}/_{5}$ and express the answer in simplest form.

Q17. Compare $^{7}/_{10}$ and $^{9}/_{14}$. Which one is greater and why?

SECTION D - Long Answer Question (5 marks)

Q18. Rahim mixes $^{2}/_{3}$ litres of yellow paint with $^{3}/_{4}$ litres of blue paint to make green paint. He then uses $^{5}/_{6}$ litres of this green paint for painting a wall.

(a) What is the total volume of green paint he made?

(b) How much green paint is left after painting the wall?

(c) Express both answers in simplest form.

(d) If he needs a total of 2 litres of green paint, how much more paint does he need to make?

(e) What fraction of the original green paint did he use?

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

Q19. Case Study 1: The Big Fish and Small Fish

A fisherman caught two fish. The big fish weighs $^{1}/_{2}$ kg and the small one weighs $^{1}/_{4}$ kg. He sells $^{1}/_{3}$ kg of fish to customer A.

(a) What is the total weight of both fish together? (1 mark)

(b) How much fish is left after selling to customer A? (1 mark)

(c) If he divides the remaining fish equally between 2 customers, how much will each customer get? (1 mark)

(d) Express all answers in simplest form. (1 mark)

Q20. Case Study 2: Geeta and Shamim's Lace

Geeta bought $^{2}/_{5}$ meter of lace and Shamim bought $^{3}/_{4}$ meter of the same lace to put a complete border on a table cloth whose perimeter is 1 meter long.

(a) Find the total length of the lace they both have bought. (1 mark)

(b) Will the lace be sufficient to cover the whole border? (1 mark)

(c) If yes, how much lace will be left? If no, how much more is needed? (1 mark)

(d) What fraction of the total perimeter does Geeta's lace cover? (1 mark)

DETAILED ANSWER KEY - PAPER 02

SECTION A - Answers to MCQs

Ans 1. (b) $^1/_4$ roti

When 1 roti is divided equally among 4 children, each child gets one-fourth (one out of four equal parts).

Ans 2. (b) 8

In a fraction, the bottom number is the denominator. In $^3/_8$, the denominator is 8.

Ans 3. (c) $^2/_5$

A unit fraction has numerator 1. Here, $^2/_5$ has numerator 2, so it is not a unit fraction.

Ans 4. (b) 1

When the numerator and denominator are equal, the fraction equals 1. $^6/_6 = 1$

Ans 5. (a) $^1/_2$

Among unit fractions, the one with the smallest denominator is the largest. Since 2 is the smallest denominator, $^1/_2$ is the largest.

Ans 6. (b) $^3/_4$

$^{15}/_{20} = ^{15\div5}/_{20\div5} = ^3/_4$ (dividing both by HCF which is 5).

Ans 7. (a) $1^2/_5$

$^7/_5 = ^{5+2}/_5 = ^5/_5 + ^2/_5 = 1 + ^2/_5 = 1^2/_5$

Ans 8. (b) $^4/_5$

$^3/_5 + ^1/_5 = ^{3+1}/_5 = ^4/_5$

Ans 9. (a) $^3/_6$

$^5/_6 - ^2/_6 = ^{5-2}/_6 = ^3/_6$ (or $^1/_2$ in simplest form).

Ans 10. (a) $^2/_3$ and $^4/_6$

$^4/_6 = ^{4\div2}/_{6\div2} = ^2/_3$. Since they represent the same value, they are equivalent fractions.

SECTION B - Answers to Short Answer Questions

Ans 11.

Total juice = 3 glasses

Number of friends = 4

Each friend's share = $^3/_4$ glass

When 3 glasses are shared equally among 4 friends, each friend gets three-fourths of a glass.

Ans 12.

Given: $^{21}/_{28}$

Find HCF of 21 and 28:

21 = 3 × 7

28 = 4 × 7

HCF = 7

$^{21}/_{28} = {}^{21\div7}/_{28\div7} = {}^{3}/_{4}$

Answer: $^{3}/_{4}$

Ans 13.

Given fractions: $^{1}/_{4}$, $^{1}/_{2}$, $^{3}/_{4}$, $^{1}/_{8}$

Convert all to denominator 8:

$^{1}/_{4} = {}^{2}/_{8}$, $^{1}/_{2} = {}^{4}/_{8}$, $^{3}/_{4} = {}^{6}/_{8}$, $^{1}/_{8} = {}^{1}/_{8}$

Comparing: $^{1}/_{8} < {}^{2}/_{8} < {}^{4}/_{8} < {}^{6}/_{8}$

Answer in ascending order: $^{1}/_{8}$, $^{1}/_{4}$, $^{1}/_{2}$, $^{3}/_{4}$

Ans 14.

Given: $3^{2}/_{5}$

Method: Multiply the whole number by denominator and add numerator

$= {}^{(3\times5) + 2}/_{5}$

$= {}^{15 + 2}/_{5}$

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

Answer: $^{17}/_{5}$

SECTION C - Answers to Short Answer Questions

Ans 15.

$^{1}/_{3} + {}^{1}/_{4} + {}^{1}/_{6}$

Step 1: Find LCM of 3, 4, and 6

LCM = 12

Step 2: Convert all fractions to denominator 12

$^{1}/_{3} = {}^{4}/_{12}$

$^{1}/_{4} = {}^{3}/_{12}$

$^{1}/_{6} = {}^{2}/_{12}$

Step 3: Add

$^{4}/_{12} + {}^{3}/_{12} + {}^{2}/_{12} = {}^{9}/_{12}$

Step 4: Simplify

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

Answer: $^{3}/_{4}$

Ans 16.

$^{2}/_{5} - {}^{4}/_{15}$

Step 1: Find LCM of 5 and 15

LCM = 15

Step 2: Convert to same denominator

$^{2}/_{5} = {}^{6}/_{15}$

$^{4}/_{15} = {}^{4}/_{15}$

Step 3: Subtract

$^{6}/_{15} - {}^{4}/_{15} = {}^{2}/_{15}$

The fraction $^{2}/_{15}$ is already in simplest form.

Answer: $^{2}/_{15}$

Ans 17.

To compare $^{7}/_{10}$ and $^{9}/_{14}$

Step 1: Find LCM of 10 and 14

LCM = 70

Step 2: Convert to same denominator

$^{7}/_{10} = {}^{7\times7}/_{10\times7} = {}^{49}/_{70}$

$^{9}/_{14} = {}^{9\times5}/_{14\times5} = {}^{45}/_{70}$

Step 3: Compare

Since 49 > 45, we have $^{49}/_{70} > {}^{45}/_{70}$

Therefore, $^{7}/_{10} > {}^{9}/_{14}$

Answer: $^{7}/_{10}$ is greater because when converted to equivalent fractions with the same denominator, $^{49}/_{70} > {}^{45}/_{70}$

SECTION D - Answer to Long Answer Question

Ans 18.

(a) Total volume of green paint:

Yellow paint = $^{2}/_{3}$ litres

Blue paint = $^{3}/_{4}$ litres

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

LCM of 3 and 4 = 12

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

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

(b) Green paint left:

Paint used = $^{5}/_{6}$ litres

Paint remaining = $^{17}/_{12} - {}^{5}/_{6}$

$= {}^{17}/_{12} - {}^{10}/_{12} = {}^{7}/_{12}$ litres

(c) Simplest form:

Total green paint: $1{}^{5}/_{12}$ litres (already in simplest form)

Remaining paint: $^{7}/_{12}$ litres (already in simplest form)

(d) Additional paint needed:

Total needed = 2 litres

Already made = $^{17}/_{12}$ litres

Additional = $2 - {}^{17}/_{12} = {}^{24}/_{12} - {}^{17}/_{12} = {}^{7}/_{12}$ litres

(e) Fraction of paint used:

Paint used = $^{5}/_{6}$

Total paint made = $^{17}/_{12}$

Fraction used = $^{5/6}/_{17/12} = {}^{5}/_{6} \times {}^{12}/_{17} = {}^{60}/_{102} = {}^{10}/_{17}$

SECTION E - Answers to Case Study Based Questions

Ans 19. Case Study 1: The Big Fish and Small Fish

(a) Total weight of both fish:

Big fish = $^{1}/_{2}$ kg

Small fish = $^{1}/_{4}$ kg

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

(b) Fish left after selling:

Total fish = $^{3}/_{4}$ kg

Sold to customer A = $^{1}/_{3}$ kg

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

LCM of 4 and 3 = 12

$= {}^{9}/_{12} - {}^{4}/_{12} = {}^{5}/_{12}$ kg

(c) Each customer's share:

Remaining fish = $^{5}/_{12}$ kg

Number of customers = 2

Each gets = $^{5}/_{12} \div 2 = {}^{5}/_{12} \times {}^{1}/_{2} = {}^{5}/_{24}$ kg

(d) All answers in simplest form:

Total weight: $^{3}/_{4}$ kg, Remaining: $^{5}/_{12}$ kg, Each customer: $^{5}/_{24}$ kg

Ans 20. Case Study 2: Geeta and Shamim's Lace

(a) Total length of lace:

Geeta's lace = $^{2}/_{5}$ m

Shamim's lace = $^{3}/_{4}$ m

Total = $^{2}/_{5} + {}^{3}/_{4}$

LCM of 5 and 4 = 20

$= {}^{8}/_{20} + {}^{15}/_{20} = {}^{23}/_{20}$ m = $1^{3}/_{20}$ m

(b) Will it be sufficient?

Yes, the lace will be sufficient because $^{23}/_{20} > 1$

Total lace = $1^{3}/_{20}$ m which is greater than 1 m (the perimeter)

(c) Lace left:

Total lace = $^{23}/_{20}$ m

Perimeter = 1 m = $^{20}/_{20}$ m

Lace left = $^{23}/_{20} - {}^{20}/_{20} = {}^{3}/_{20}$ m

(d) Fraction covered by Geeta's lace:

Geeta's lace = $^{2}/_{5}$ m = $^{8}/_{20}$ m

Total perimeter = 1 m = $^{20}/_{20}$ m

Fraction = $^{8/20}/_{20/20} = {}^{8}/_{20} = {}^{2}/_{5}$
