

CBSE Class 6 — Mathematics**Chapter 7: Fractions****Section A — Multiple Choice Questions (10 x 1 = 10 marks)**

Tick (✓) or circle the correct option.

1. Which of the following is a fractional unit (unit fraction)?
(a) $\frac{3}{4}$ (b) $\frac{1}{7}$ (c) $\frac{5}{2}$ (d) $\frac{2}{3}$
2. A chocolate bar is shared equally among 9 children. What fraction does each child get?
(a) $\frac{1}{9}$ (b) $\frac{9}{1}$ (c) $\frac{1}{8}$ (d) $\frac{9}{9}$
3. In the fraction $\frac{4}{11}$, what is 4 called?
(a) Denominator (b) Numerator (c) Whole number (d) Unit
4. Which fraction is the smallest?
(a) $\frac{1}{4}$ (b) $\frac{1}{8}$ (c) $\frac{1}{2}$ (d) $\frac{1}{6}$
5. The fraction $\frac{11}{5}$ expressed as a mixed number is:
(a) $2\frac{1}{5}$ (b) $1\frac{1}{5}$ (c) $2\frac{2}{5}$ (d) $3\frac{1}{5}$
6. Which pair of fractions is equivalent?
(a) $\frac{3}{5}$ and $\frac{6}{9}$ (b) $\frac{1}{4}$ and $\frac{2}{8}$ (c) $\frac{2}{3}$ and $\frac{3}{5}$ (d) $\frac{1}{2}$ and $\frac{1}{3}$
7. The simplest form of $\frac{18}{24}$ is:
(a) $\frac{9}{12}$ (b) $\frac{6}{8}$ (c) $\frac{3}{4}$ (d) $\frac{2}{3}$
8. The Sanskrit word for fraction, meaning 'broken', is:
(a) Bhaga (b) Bhinna (c) Ansha (d) Tripada
9. Which is greater: $\frac{3}{7}$ or $\frac{4}{9}$?
(a) $\frac{3}{7}$ (b) $\frac{4}{9}$ (c) Both are equal (d) Cannot say
10. $\frac{2}{5} + \frac{1}{4} = ?$
(a) $\frac{3}{9}$ (b) $\frac{13}{20}$ (c) $\frac{3}{20}$ (d) $\frac{9}{20}$

Section B — Fill in the Blanks (10 x 1 = 10 marks)

1. When one whole is divided into equal parts and shared, the result for each share is called a _____.
2. The bottom number of a fraction is called the _____.
3. The top number of a fraction is called the _____.
4. A fraction in which the numerator is equal to or greater than the denominator is called an _____ fraction.

5. $\frac{1}{2}$, $\frac{2}{4}$ and $\frac{3}{6}$ are examples of _____ fractions.
6. 5 rotis shared equally among 4 children means each child gets _____ roti.
7. To add fractions with different denominators, we must first convert them to fractions with the same _____.
8. The ancient Indian manuscript that shows fractions written in a form similar to today's notation is called the _____ manuscript.
9. The mathematician who introduced the line between the numerator and denominator was _____.
10. A fraction is said to be in _____ terms if its numerator and denominator have no common factor other than 1.

Section C — True or False (10 x 1 = 10 marks)

1. $\frac{1}{6}$ is greater than $\frac{1}{4}$. (True / False)
2. The denominator tells us into how many equal parts the whole has been divided. (True / False)
3. $\frac{4}{9}$ and $\frac{2}{3}$ are equivalent fractions. (True / False)
4. Every improper fraction can be written as a mixed number. (True / False)
5. In the fraction $\frac{7}{3}$, 3 is the numerator. (True / False)
6. Fractions with the same denominator can be compared by simply comparing their numerators. (True / False)
7. The simplest form of $\frac{14}{21}$ is $\frac{2}{3}$. (True / False)
8. Ancient Egyptians generally used fractions where the numerator could be any number. (True / False)
9. Brahmagupta lived before Aryabhata. (True / False)
10. The fraction $\frac{9}{9}$ is equal to 1 whole. (True / False)

Section D — Answer in 2 Lines (10 x 2 = 20 marks)

1. What is meant by the denominator of a fraction?

2. If one cake is shared equally among 8 children, what fraction does each child receive?

3. Write $\frac{13}{4}$ as a mixed number.

4. Write $5\frac{2}{3}$ as an improper fraction.

5. Are $\frac{3}{4}$ and $\frac{9}{12}$ equivalent? Explain briefly.

6. Reduce $\frac{20}{28}$ to its simplest form.

7. Which is greater: $\frac{5}{8}$ or $\frac{7}{12}$? Show your working.

8. Add: $\frac{2}{5} + \frac{3}{10}$.

9. Subtract: $\frac{7}{9} - \frac{2}{9}$.

10. What was a fraction called in ancient India, and what did the word mean?

Section E — Case Study Based Questions (5 x 3 = 15 marks)

Case Study 1

A birthday cake was cut into 10 equal pieces. Karan ate 2 pieces and his friend Dev ate 3 pieces.

1.1. What fraction of the cake did Karan eat?

1.2. What fraction of the cake did Karan and Dev eat together?

1.3. What fraction of the cake remained?

Case Study 2

For a class picnic, $\frac{3}{4}$ litre of mango juice was mixed with $\frac{1}{2}$ litre of orange juice to make a mixed fruit drink.

2.1. What is the total quantity of mixed fruit drink made?

2.2. Which juice was used in a smaller quantity?

2.3. Express the total quantity as a mixed number.

Case Study 3

Sana had a ribbon $\frac{9}{10}$ m long. She used $\frac{3}{5}$ m of it to decorate her project file.

3.1. What length of ribbon is left after she used some of it?

3.2. What common denominator did you use to subtract the two fractions?

3.3. If she uses another $\frac{1}{10}$ m later, how much ribbon will be left then?

Case Study 4

A vegetable patch was divided into 8 equal parts. Tomatoes were grown in 3 parts, spinach in 4 parts, and the rest was left for chillies.

4.1. What fraction of the patch has tomatoes?

4.2. What fraction of the patch has spinach?

4.3. What fraction of the patch is left for chillies? Write it in simplest form.

Case Study 5

A family bought 7 identical sandwiches to share equally among 4 children.

5.1. What fraction of a sandwich will each child get?

5.2. Express this fraction as a mixed number.

5.3. How many whole sandwiches and what extra part will each child get?

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ANSWER KEY — Set B**Section A — Multiple Choice Questions**

1. (b) $\frac{1}{7}$
2. (a) $\frac{1}{9}$
3. (b) Numerator
4. (b) $\frac{1}{8}$
5. (a) $2\frac{1}{5}$
6. (b) $\frac{1}{4}$ and $\frac{2}{8}$
7. (c) $\frac{3}{4}$
8. (b) Bhinna
9. (a) $\frac{3}{7}$
10. (b) $\frac{13}{20}$

Section B — Fill in the Blanks

1. fraction
2. denominator
3. numerator
4. improper
5. equivalent
6. $\frac{5}{4}$ (or $1\frac{1}{4}$)
7. denominator
8. Bakshali
9. Al-Hassar
10. lowest

Section C — True or False

1. False
2. True
3. False
4. True
5. False
6. True
7. True
8. False
9. False

10. True

Section D — Answer in 2 Lines

1. The denominator is the bottom number of a fraction. It tells us into how many equal parts the whole has been divided.
2. Each child receives $\frac{1}{8}$ of the cake.
3. $\frac{13}{4} = 3 \frac{1}{4}$.
4. $5 \frac{2}{3} = \frac{17}{3}$.
5. Yes, they are equivalent because $\frac{9}{12}$ simplifies to $\frac{3}{4}$ when both numbers are divided by 3.
6. $\frac{20}{28} = \frac{5}{7}$, dividing both numerator and denominator by 4.
7. $\frac{5}{8}$ is greater. Using common denominator 24: $\frac{5}{8} = \frac{15}{24}$ and $\frac{7}{12} = \frac{14}{24}$, and $\frac{15}{24} > \frac{14}{24}$.
8. $\frac{2}{5} + \frac{3}{10} = \frac{4}{10} + \frac{3}{10} = \frac{7}{10}$.
9. $\frac{7}{9} - \frac{2}{9} = \frac{5}{9}$.
10. A fraction was called 'bhinna' in Sanskrit, meaning 'broken' (also 'bhaga' or 'ansha', meaning 'part').

Section E — Case Study Based Questions

Case Study 1

- 1.1. Karan ate $\frac{2}{10} = \frac{1}{5}$ of the cake.
- 1.2. Together = $\frac{2}{10} + \frac{3}{10} = \frac{5}{10} = \frac{1}{2}$ of the cake.
- 1.3. Remaining = $\frac{10}{10} - \frac{5}{10} = \frac{5}{10} = \frac{1}{2}$ of the cake.

Case Study 2

- 2.1. Total = $\frac{3}{4} + \frac{1}{2} = \frac{3}{4} + \frac{2}{4} = \frac{5}{4}$ litres.
- 2.2. Orange juice ($\frac{2}{4}$) was used in a smaller quantity than mango juice ($\frac{3}{4}$).
- 2.3. $\frac{5}{4} = 1 \frac{1}{4}$ litres.

Case Study 3

- 3.1. Remaining = $\frac{9}{10} - \frac{3}{5} = \frac{9}{10} - \frac{6}{10} = \frac{3}{10}$ m.
- 3.2. The common denominator used was 10.
- 3.3. Remaining = $\frac{3}{10} - \frac{1}{10} = \frac{2}{10} = \frac{1}{5}$ m.

Case Study 4

- 4.1. Tomatoes = $\frac{3}{8}$ of the patch.
- 4.2. Spinach = $\frac{4}{8} = \frac{1}{2}$ of the patch.
- 4.3. Chillies = $\frac{8}{8} - \frac{3}{8} - \frac{4}{8} = \frac{1}{8}$ of the patch.

Case Study 5

- 5.1. Each child gets $\frac{7}{4}$ of a sandwich.
- 5.2. $\frac{7}{4} = 1 \frac{3}{4}$.
- 5.3. Each child gets 1 whole sandwich and an extra $\frac{3}{4}$ of a sandwich.