# SHORT QUESTIONS FRACTIONS

**Equivalent Fractions (Q1–Q3)**

**1.** What is an equivalent fraction to one-half?
**2.** Write an equivalent fraction for two-thirds with a denominator of twelve.
**3.** Find a fraction equivalent to five-sixths with a numerator of ten.

**Simplifying Fractions (Q4–Q6)**

**4.** Simplify the fraction eight-twelfths.
**5.** What is twelve over sixteen in its simplest form?
**6.** Simplify twenty-one over twenty-eight.

**Mixed and Improper Fractions (Q7–Q10)**

**7.** Write seven-fifths as a mixed number.
**8.** Convert three and one-quarter into an improper fraction.
**9.** Change nine-fourths to a mixed number.
**10.** Write two and two-fifths as an improper fraction.

**Adding and Subtracting Like Fractions (Q11–Q13)**

**11.** Add three-eighths and two-eighths.
**12.** What is five-sixths minus two-sixths?
**13.** Add seven-tenths and one-tenth.

**Adding and Subtracting Unlike Fractions (Q14–Q16)**

**14.** Add one-half and one-third.
**15.** Subtract one-quarter from two-thirds.
**16.** What is five-sixths minus one-third?

**Multiplying Fractions (Q17–Q19)**

**17.** Multiply one-half by one-third.
**18.** What is two-fifths multiplied by three-quarters?
**19.** Multiply one and a half by one-third.

**Dividing Fractions (Q20–Q22)**

**20.** Divide one-half by one-quarter.
**21.** What is two-thirds divided by one-sixth?
**22.** Divide three-quarters by one-half.

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**Comparing Fractions (Q23–Q25)**

**23.** Which is greater: two-thirds or three-fifths?
**24.** Which is smaller: five-eighths or four-sevenths?
**25.** Arrange in ascending order: one-half, two-thirds, three-quarters.

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**Fraction of an Amount (Q26–Q28)**

**26.** What is one-quarter of sixty?
**27.** Find three-fifths of eighty.
**28.** What is two-thirds of ninety?

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**Fraction of a Missing Amount (Q29–Q30)**

**29.** Three-fifths of a number is sixty. What is the number?
**30.** One-sixth of a number is fifteen. What is the whole number?



## FRACTION WORD PROBLEMS

### 🟠 Equivalent Fractions (Q1–Q3)

**1.** Sarah eats one-third of a cake. Her sister eats an equivalent amount but says she had four-twelfths. Who is correct, and why?
**2.** Which of the following fractions is equivalent to three-fifths? A: 6/10, B: 9/15, C: 12/20, D: All of them
**3.** A recipe uses 3/4 of a cup of sugar. You only have a 1/8 measuring cup. How many 1/8 cups do you need?

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### 🟠 Simplifying Fractions (Q4–Q6)

**4.** Mia ran 18 out of 24 laps. What fraction of the laps did she complete? Simplify your answer.

**5.** A ribbon is 36 cm long. A piece measuring 27 cm is cut off. What fraction of the ribbon was cut? Give your answer in simplest form.

**6.** Tom got 45 out of 60 marks on a test. Write this as a simplified fraction.

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## 🟠 Mixed & Improper Fractions (Q7–Q10)

**7.** Convert the improper fraction 17/5 into a mixed number.

**8.** Write 2 3/8 as an improper fraction.

**9.** A cake recipe needs 9/2 cups of flour. How many full cups and how much extra is that?

**10.** Convert 4 2/3 into an improper fraction and then back into a mixed number.

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## 🟠 Adding & Subtracting Like Fractions (Q11–Q13)

**11.** Sam drank 2/7 of a bottle of juice in the morning and 3/7 in the evening. How much did he drink in total?

**12.** A rope is 10 metres long. If 6/10 is painted red and 2/10 is painted blue, how much is left unpainted?

**13.** A packet of seeds has 9/10 left. If 4/10 is used, how much remains?

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## 🟠 Adding & Subtracting Unlike Fractions (Q14–Q16)

**14.** Anna ate 1/3 of a pie and then 1/4 more. How much did she eat in total?

**15.** A jug contains 5/6 litres of water. You pour out 1/3 litre. How much is left?

**16.** Olivia read 3/4 of a book. Her brother read 2/5 of the same book. Who read more and by how much?

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## 🟠 Multiplying Fractions (Q17–Q19)

**17.** What is 3/4 of 16?
**18.** A box of cereal weighs 2/3 kg. You eat 1/2 of the box. How much cereal did you eat?
**19.** Multiply 1 1/2 by 2/5 and give your answer as a simplified fraction.

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## 🟠 Dividing Fractions (Q20–Q22)

**20.** How many 1/4-litre bottles can be filled from 2 litres of juice?
**21.** A rope is 3/4 metres long. You cut it into pieces that are 1/8 metres each. How many pieces can you cut?
**22.** If 2/3 of a pizza is shared equally between 2 people, how much does each person get?

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## 🟠 Comparing Fractions (Q23–Q25)

**23.** Which is larger: 3/5 or 2/3? Show how you know.
**24.** Put these in order from smallest to largest: 1/2, 5/8, 3/4
**25.** Emma ran 4/6 of a race and Jack ran 5/9. Who ran more?

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## 🟠 Fraction of an Amount (Q26–Q28)

**26.** What is 2/5 of £60?
**27.** A school has 120 students. 3/8 are girls. How many girls are there?
**28.** A baker uses 3/4 of 48 kg of flour. How much flour does he use?

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## 🟠 Fraction of a Missing Amount (Q29–Q30)

**29.** 2/3 of a number is 80. What is the number?
**30.** One-fifth of a number is 18. What is the full number?

Short Fractions Answers only

1. 2/4
2. 8/12
3. 10/12
4. 2/3
5. 3/4
6. 3/4
7. 1 2/5
8. 13/4
9. 2 1/4
10. 12/5
11. 5/8
12. 1/2
13. 4/5
14. 5/6
15. 5/12
16. 1/2
17. 1/6
18. 3/10
19. 1/2
20. 2
21. 4
22. 1 1/2
23. Two-thirds
24. Four-sevenths
25. 1/2, 2/3, 3/4
26. 15
27. 48
28. 60
29. 100
30. 90

Answers with explanations

**Equivalent Fractions (Q1–Q3)**

**1.** 2/4

➞ Multiply both numerator and denominator of 1/2 by 2: (1×2)/(2×2) = 2/4.

**2.** 8/12

➞ Multiply both parts of 2/3 by 4: (2×4)/(3×4) = 8/12.

**3.** 10/12

➞ Multiply numerator and denominator of 5/6 by 2: (5×2)/(6×2) = 10/12.

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**Simplifying Fractions (Q4–Q6)**

**4.** 2/3

➞ Divide both 8 and 12 by 4: 8 ÷ 4 = 2, 12 ÷ 4 = 3.

**5.** 3/4

➞ Divide 12 and 16 by 4: 12 ÷ 4 = 3, 16 ÷ 4 = 4.

**6.** 3/4

➞ Divide 21 and 28 by 7: 21 ÷ 7 = 3, 28 ÷ 7 = 4.

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**Mixed and Improper Fractions (Q7–Q10)**

**7.** 1 2/5

➞ 7 ÷ 5 = 1 remainder 2 → 1 whole and 2/5.

**8.** 13/4

➞ 3 × 4 = 12 + 1 = 13/4.

**9.** 2 1/4

➞ 9 ÷ 4 = 2 remainder 1 → 2 and 1/4.

**10.** 12/5

➞ 2 × 5 = 10 + 2 = 12/5.

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**Adding and Subtracting Like Fractions (Q11–Q13)**

**11.** 5/8

➞ Add numerators: 3 + 2 = 5; denominator stays 8.

**12.** 1/2

➞ 5 − 2 = 3; 3/6 simplifies to 1/2.

**13.** 8/10 or 4/5

➞ 7 + 1 = 8 → 8/10 simplifies to 4/5.

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**Adding and Subtracting Unlike Fractions (Q14–Q16)**

**14.** 5/6

➞ LCM of 2 and 3 is 6 → 1/2 = 3/6, 1/3 = 2/6 → 3/6 + 2/6 = 5/6.

**15.** 5/12

➞ 2/3 = 8/12, 1/4 = 3/12 → 8/12 − 3/12 = 5/12.

**16.** 1/2

➞ 5/6 − 1/3 = 5/6 − 2/6 = 3/6 = 1/2.

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**Multiplying Fractions (Q17–Q19)**

**17.** 1/6

➞ Multiply tops: 1×1 = 1; bottoms: 2×3 = 6.

**18.** 3/10

➞ 2×3 = 6; 5×4 = 20 → 6/20 = 3/10.

**19.** 1/2

➞ 1 1/2 = 3/2 → 3/2 × 1/3 = 3/6 = 1/2.

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**Dividing Fractions (Q20–Q22)**

**20.** 2

➞ 1/2 ÷ 1/4 = 1/2 × 4/1 = 4/2 = 2.

**21.** 4

➞ 2/3 ÷ 1/6 = 2/3 × 6/1 = 12/3 = 4.

**22.** 1 1/2

➞ 3/4 ÷ 1/2 = 3/4 × 2/1 = 6/4 = 1 1/2.

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**Comparing Fractions (Q23–Q25)**

**23.** Two-thirds

➞ 2/3 = 10/15, 3/5 = 9/15 → 2/3 is greater.

**24.** Four-sevenths

➞ 5/8 ≈ 0.625, 4/7 ≈ 0.571 → 4/7 is smaller.

**25.** 1/2, 2/3, 3/4

➞ Decimal values: 0.5, 0.666, 0.75 → Ascending order is correct.

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**Fraction of an Amount (Q26–Q28)**

**26.** 15

➞ 60 ÷ 4 = 15.

**27.** 48

➞ 80 ÷ 5 = 16; 16 × 3 = 48.

**28.** 60

➞ 90 ÷ 3 = 30; 30 × 2 = 60.

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**Fraction of a Missing Amount (Q29–Q30)**

**29.** 100

➞ 3/5 × ? = 60 → ? = 60 × 5 ÷ 3 = 100.

**30.** 90

➞ 1/6 × ? = 15 → ? = 15 × 6 = 90.

Fraction problem solving answers only

1. Yes
2. D: All of them
3. 6
4. 3/4
5. 3/4
6. 3/4
7. 3 2/5
8. 19/8
9. 4 1/2
10. 4 2/3
11. 5/7
12. 1/5
13. 1/2
14. 7/12
15. 1/2
16. Olivia by 7/20

17. 12
18. 1/3 kg
19. 3/5
20. 8
21. 6
22. 1/3
23. 2/3
24. 1/2, 5/8, 3/4
25. Emma
26. £24
27. 45
28. 36 kg
29. 120
30. 90

Equivalent Fractions (Q1–Q3)

**1.** Yes

➞ 1/3 = 4/12 because multiplying both numerator and denominator by 4 gives 4/12.

**2.** D: All of them

➞ 3/5 = 6/10, 9/15, and 12/20; all are equivalent by multiplying by 2, 3, and 4.

**3.** 6

➞ Each 1/8 cup is 0.125; 3/4 = 6/8 → you need 6 one-eighth cups.

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Simplifying Fractions (Q4–Q6)

**4.** 3/4

➞ 18/24 simplifies by dividing both by 6 → 3/4.

**5.** 3/4

➞ 27/36 → divide both by 9 → 3/4.

**6.** 3/4

➞ 45/60 → divide both by 15 → 3/4.

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Mixed & Improper Fractions (Q7–Q10)

**7.** 3 2/5

➞ 17 ÷ 5 = 3 remainder 2 → 3 2/5.

**8.** 19/8

➞ 2 × 8 + 3 = 19 → 19/8.

**9.** 4 1/2

➞ 9/2 = 4 whole (8/2) + 1/2 → 4 1/2.

**10.** 4 2/3

➞ 4 × 3 + 2 = 14 → 14/3; back to mixed = 4 2/3.

Adding & Subtracting Like Fractions (Q11–Q13)

**11.** 5/7

➞ 2/7 + 3/7 = 5/7.

**12.** 1/5

➞ 6/10 + 2/10 = 8/10 → unpainted = 2/10 = 1/5.

**13.** 1/2

➞ 9/10 − 4/10 = 5/10 = 1/2.

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Adding & Subtracting Unlike Fractions (Q14–Q16)

**14.** 7/12

➞ LCM of 3 and 4 = 12 → 1/3 = 4/12, 1/4 = 3/12 → total = 7/12.

**15.** 1/2

➞ 5/6 − 1/3 = 5/6 − 2/6 = 3/6 = 1/2.

**16.** Olivia by 7/20

➞ 3/4 = 15/20, 2/5 = 8/20 → 15 − 8 = 7 → difference = 7/20.

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Multiplying Fractions (Q17–Q19)

**17.** 12

➞ 3/4 × 16 = 48/4 = 12.

**18.** 1/3 kg

➞ 1/2 of 2/3 = 2/3 × 1/2 = 2/6 = 1/3.

**19.** 3/5

➞ 1 1/2 = 3/2 × 2/5 = 6/10 = 3/5.

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Dividing Fractions (Q20–Q22)

**20.** 8

➞ 2 ÷ 1/4 = 2 × 4 = 8.

**21.** 6

➞ 3/4 ÷ 1/8 = 3/4 × 8 = 24/4 = 6.

**22.** 1/3

➞ 2/3 ÷ 2 = 2/3 × 1/2 = 2/6 = 1/3.

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Comparing Fractions (Q23–Q25)

**23.** 2/3

➞ 3/5 = 9/15, 2/3 = 10/15 → 2/3 is greater.

**24.** 1/2, 5/8, 3/4

➞ Decimals: 0.5, 0.625, 0.75 → ordered from smallest to largest.

**25.** Emma

➞ 4/6 = 2/3 ≈ 0.666; 5/9 ≈ 0.555 → Emma ran more.

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Fraction of an Amount (Q26–Q28)

**26.** £24

➞ 2/5 × 60 = 120/5 = 24.

**27.** 45

➞ 3/8 × 120 = 360/8 = 45.

**28.** 36 kg

➞ 3/4 × 48 = 144/4 = 36.

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Fraction of a Missing Amount (Q29–Q30)

**29.** 120

➞ 2/3 × ? = 80 → ? = 80 × 3/2 = 120.

**30.** 90

➞ 1/5 × ? = 18 → ? = 18 × 5 = 90.