

# CHAPTER 5

## FRACTIONS

### More Questions for Practice

1. By cancelling, express the following fractions in their *lowest terms*:

(a)  $\frac{7}{35}$

(b)  $\frac{36}{64}$

(c)  $\frac{110}{220}$

2. Write the following *improper fractions* as *mixed fractions*:

(e.g.,  $\frac{17}{5} = 3\frac{2}{5}$ )

(a)  $\frac{23}{4}$

(b)  $\frac{19}{3}$

(c)  $\frac{43}{10}$

3. Write the following *mixed fractions* as *improper fractions*:

(e.g.,  $4\frac{1}{3} = \frac{13}{3}$ )

(a)  $7\frac{1}{6}$

(b)  $3\frac{2}{9}$

(c)  $2\frac{7}{10}$

4. Simplify:

(a)  $\frac{3}{4} + \frac{7}{9}$

(b)  $\frac{9}{16} - \frac{2}{5}$

(c)  $\frac{9}{10} + \frac{11}{12} - \frac{8}{15}$

5. Simplify:

(a)  $\frac{7}{10} - \frac{7}{12}$

(b)  $\frac{3}{8} + \frac{5}{12}$

(c)  $\frac{11}{16} - \frac{5}{8} + \frac{1}{4}$

(d)  $\frac{46}{39} - \frac{9}{13} + \frac{2}{3}$

6. Simplify:

(a)  $1\frac{4}{15} + 2\frac{7}{10}$

(b)  $2\frac{5}{12} - 4\frac{11}{12} + 3\frac{7}{18}$

(c)  $3\frac{11}{12} + 3\frac{1}{4} - 5\frac{2}{3}$

7. Simplify:

(a)  $1\frac{1}{24} - 1 + \frac{7}{36}$

(b)  $\frac{13}{7} - 3 + \frac{55}{21}$

(c)  $5 + \frac{23}{62} - \frac{10}{31} + 1\frac{1}{2}$

(d)  $\frac{17}{32} + \frac{41}{16} - 2 + 4\frac{7}{8}$

8. Subtract the smallest from the greatest:

(a)  $7\frac{1}{2}$ ,  $2\frac{1}{3}$ ,  $\frac{23}{4}$ ,  $\frac{37}{5}$

(b)  $\frac{19}{4}$ ,  $\frac{33}{7}$ ,  $3\frac{21}{32}$ ,  $3\frac{25}{47}$

9. What should be added to  $37\frac{4}{21}$ , so that the sum is 50?

10. Add  $4\frac{6}{17}$  to the difference of  $8\frac{9}{34}$  and  $\frac{88}{85}$ .

11. Find the difference between the sum of  $37\frac{1}{37}$  and  $74\frac{1}{74}$  and the sum of  $24\frac{1}{24}$  and  $36\frac{1}{36}$ .

$$\left[ \text{Hint: } \left( 37\frac{1}{37} + 74\frac{1}{74} \right) - \left( 24\frac{1}{24} + 36\frac{1}{36} \right) \right]$$

12. Simplify:

(a)  $3 \times \frac{2}{5}$

(b)  $2\frac{1}{2} \times 2\frac{1}{3}$

(c)  $\frac{11}{27} \times 1\frac{11}{25}$

(d)  $3\frac{1}{4} \times 3\frac{9}{13}$

(e)  $13 \times 3\frac{7}{10}$

(f)  $4\frac{3}{11} \times \frac{56}{40}$

13. Simplify:

(a)  $2 \times \frac{3}{4}$

(b)  $\frac{5}{8} \times 4$

(c)  $\frac{2}{5} \times \frac{3}{8}$

(d)  $\frac{4}{9} \times \frac{3}{5}$

(e)  $2\frac{5}{8} \times 2\frac{2}{7}$

(f)  $3\frac{1}{16} \times \frac{14}{21} \times 3\frac{1}{7}$

(g)  $6\frac{1}{9} \times \frac{8}{13} \times 1\frac{17}{22}$

(h)  $4\frac{1}{8} \times \frac{14}{17} \times 1\frac{13}{21}$

(i)  $\frac{1}{4} \times 2\frac{1}{2} \times \frac{4}{5} \times 3\frac{1}{2}$

14. Simplify:

(a)  $12\frac{5}{17} \div 15$

(b)  $19\frac{3}{5} \div 14$

(c)  $6\frac{5}{8} \div 19$

(d)  $\frac{18}{43} \div 1$

(e)  $7\frac{19}{27} \div 13$

(f)  $6 \div \frac{3}{7}$

15. Simplify:

(a)  $\frac{12}{17} \div \frac{3}{4}$

(b)  $\frac{18}{25} \div \frac{6}{25}$

(c)  $35\frac{2}{11} \div 4\frac{7}{9}$

(d)  $1\frac{8}{11} \div 1\frac{5}{33}$

(e)  $3\frac{31}{39} \div \frac{37}{91}$

(f)  $5\frac{13}{28} \div 2\frac{19}{49}$

(g)  $2\frac{19}{26} \div 16\frac{5}{13}$

16. Divide  $2\frac{2}{7}$  by the product of  $1\frac{4}{11}$  and  $2\frac{4}{9}$ .

17. Divide the difference of  $\frac{14}{4}$  and  $\frac{3}{2}$  by the difference of  $\frac{17}{6}$  and  $\frac{1}{2}$ .

18. Simplify:

(a)  $\frac{25}{28} \div \frac{7}{15} \times \frac{42}{125}$

(b)  $\frac{38}{45} \div \frac{57}{65} \times \frac{20}{39}$

(c)  $\frac{5}{6} \times \frac{9}{10} \div \frac{3}{4}$

(d)  $\frac{4}{7} \times \frac{14}{15} \div \frac{4}{5}$

(e)  $\frac{4}{33} \times \frac{22}{25} \div \frac{8}{15}$

19. Simplify:

(a)  $\frac{7}{6} \div \frac{14}{33} \times \frac{22}{35}$

(b)  $\frac{7}{66} \div \left( \frac{14}{33} \times \frac{22}{35} \right)$

(c)  $\frac{25}{39} \div \frac{5}{13} \times \frac{7}{20}$

20. Simplify:

(a)  $2\frac{2}{5} \div 1\frac{1}{10} \times \frac{22}{25}$

(b)  $1\frac{1}{2} \div 1\frac{1}{4} \times 1\frac{2}{3}$

(c)  $1\frac{1}{3} \times 1\frac{2}{3} \div 8\frac{1}{3}$

21. Simplify:

$$(a) 1\frac{1}{4} \div \left(1\frac{1}{5} \times 1\frac{3}{4}\right) \quad (b) 1\frac{1}{2} \div \left(1\frac{1}{4} \times 1\frac{2}{3}\right) \quad (c) 3\frac{3}{8} \div \left(1\frac{1}{5} \times 1\frac{1}{3}\right)$$

$$(d) 4\frac{5}{11} \div \left(\frac{14}{15} \times \frac{25}{33}\right) \quad (e) 2\frac{3}{5} \div \left(\frac{26}{27} \times 1\frac{1}{5}\right) \quad (f) 1\frac{3}{5} \div \left(3\frac{9}{22} \times 1\frac{19}{25}\right)$$

22. Simplify:

$$(a) 2\frac{1}{4} \div \frac{2}{7} \text{ of } 1\frac{1}{3} \quad (b) \frac{1}{3} \text{ of } 30 \div 30 \quad (c) \left(\frac{3}{7} \div \frac{1}{4}\right) \text{ of } \frac{8}{7}$$

23. Anju bought  $7\frac{1}{3}$  kg mangoes and  $11\frac{7}{16}$  kg apples. Find the total weight of the fruits bought by her.

24. Juliet travelled  $37\frac{2}{5}$  km by car,  $19\frac{1}{10}$  km by bus and  $97\frac{3}{20}$  km by train. Find the total distance travelled by her.

25. John lives  $3\frac{4}{7}$  km away from the school while George lives  $4\frac{3}{10}$  km away from the school. Who lives farther from the school and by how much?

26. A cow yields  $10\frac{7}{10}$  litres milk everyday. Find how many litres of milk is the yield by the cow in a week?

27. A group of 15 students went to see a movie. If one ticket costs ₹  $26\frac{3}{5}$ , how much did they have to spend in all?

28. 25 shorts of equal size were prepared from  $13\frac{11}{28}$  m cloth. How much cloth was used for one short?

29. 15 steel chairs were purchased by a school for ₹  $1706\frac{1}{4}$ . Find the cost of one steel chair.

30. Which is greater—

$$(a) \frac{3}{4} \text{ or } \frac{7}{8} \quad (b) \frac{3}{4} \text{ or } \frac{2}{3}$$

31. Reduce to simplest form:

$$(a) \frac{2535}{845} \quad (b) \frac{4278}{558}$$

32. Arrange the following fractions in ascending order:

$$\frac{5}{6}, \frac{5}{8}, \frac{7}{12}$$

33. Arrange the following fractions in descending order:

$$\frac{17}{32}, \frac{19}{48}, \frac{9}{16}$$

34. What should be added to  $6\frac{1}{4}$  to get  $30\frac{1}{2}$ ?

35. Find:  $8\frac{5}{8} + 2\frac{1}{3}$

36. Simplify:

$$\left(1\frac{7}{8} \div 1\frac{1}{2}\right) \text{ of } \left(8\frac{1}{3} \div 1\frac{1}{2}\right).$$

37. Three parcels weigh  $5\frac{2}{7}$  kg, 4 kg and  $5\frac{4}{5}$  kg respectively. How much is the total weight short of 20 kg?

38.  $\frac{4}{7}$ th of a pole is in the mud. When  $\frac{1}{3}$ rd of it is pulled out, a 5 metre long piece of the pole is still in the mud. What is the full length of the pole?

39. Simplify:

$$\left[\frac{3}{8} + \frac{3}{11} \text{ of } \left\{10 + \left(\frac{1}{3} - \frac{1}{4}\right)\right\}\right] \div \frac{5}{8}.$$

40. A cart has 6 dozens of fruits.  $\frac{1}{3}$  of it are mangoes,  $\frac{1}{4}$  are oranges and the rest are bananas. Find the number of bananas.

41.  $\frac{1}{3}$  of a vessel contains milk. If  $4\frac{1}{4}$  litres of milk is taken out, the remaining milk is  $\frac{1}{4}$  of the vessel. Find the capacity of the vessel and how much milk does the vessel hold?

42. A dishonest shopkeeper uses 990 gm of weight instead of 1 kg. Shweta went to the shopkeeper and asked him to give  $2\frac{1}{2}$  kg of sugar. What fraction of  $2\frac{1}{2}$  kg of sugar was she cheated of?

43. Write each of the following fractions in terms of decimals:

(a)  $8 + \frac{1}{100}$

(b)  $11 + \frac{1}{10} + \frac{7}{1000}$

(c)  $190 + \frac{6}{1000}$ .

44. Add and find the sum:

(a) 1.4, 3.6 and 0.5

(b) 12.3, 1.35 and 41.05

(c) 9.002, 0.902, 90.02 and 900.2.

45. Subtract and find the difference:

(a) 45.98 from 87.23

(b) 98.17 from 121.2

(c) 48.1 from 72.23

(d) 1.66 from 10.005.

46. Simplify:

(a)  $250 - 157.6 - 0.4783 - 2.1018$

(b)  $120 - 42.01 - 19.008 - 0.5438$

(c)  $4532.7 - 3675.381 + 8741.5 - 750.755$

(d)  $2000 - 151.984 - 329.8541 + 0.2024$ .

47. The sum of two decimals is 71.05. If one of them is 17.56, find the other.

48. The difference of two decimals is 1.2. If the greater decimal is 21.7, find the smaller decimal.

- 49.** Write each of the following decimals as fractions in their lowest terms:  
 (a) 5.45 (b) 6.025 (c) 3.012 (d) 25.063.
- 50.** Convert each of the following fractions as decimals:  
 (a)  $10\frac{1}{8}$  (b)  $\frac{217}{250}$  (c)  $15\frac{3}{8}$  (d)  $7\frac{11}{16}$   
 (e)  $4\frac{23}{200}$ .
- 51.** Express the following in terms of fractions:  
 (a) 102.937 (b) 75.507.
- 52.** Write each of the following as a decimal:  
 (a)  $17 + \frac{1}{10} + \frac{7}{1000}$  (b)  $44 + \frac{4}{10} + \frac{8}{100}$ .
- 53.** Convert unlike decimals into like decimals:  
 (a) 1.2, 0.08 and 13.1 (b) 1.42, 14.2 and 0.142.
- 54.** Simplify:  
 (a)  $321.7 - 195.68 - 27.27 + 625.004$ . (b)  $56.680 - 436.25 + 621.74 - 32.29$ .

## ANSWERS

- 1.** (a)  $\frac{1}{5}$  (b)  $\frac{9}{16}$  (c)  $\frac{1}{2}$  **2.** (a)  $5\frac{3}{4}$  (b)  $6\frac{1}{3}$  (c)  $4\frac{3}{10}$
- 3.** (a)  $\frac{43}{6}$  (b)  $\frac{29}{9}$  (c)  $\frac{27}{10}$  **4.** (a)  $\frac{55}{36}$  (b)  $\frac{13}{80}$  (c)  $\frac{77}{60}$
- 5.** (a)  $\frac{7}{60}$  (b)  $\frac{19}{24}$  (c)  $\frac{5}{16}$  (d)  $\frac{45}{39}$  or  $\frac{15}{13}$
- 6.** (a)  $3\frac{29}{30}$  (b)  $\frac{8}{9}$  (c)  $1\frac{1}{2}$
- 7.** (a)  $\frac{17}{72}$  (b)  $1\frac{10}{21}$  (c)  $6\frac{17}{31}$  (d)  $5\frac{31}{32}$
- 8.** (a)  $5\frac{1}{6}$  (b)  $1\frac{41}{188}$  **9.**  $12\frac{17}{21}$  **10.**  $11\frac{99}{170}$  **11.**  $50\frac{2587}{2664}$
- 12.** (a)  $1\frac{1}{5}$  (b)  $5\frac{5}{6}$  (c)  $\frac{44}{75}$  (d) 12 (e)  $48\frac{1}{10}$  (f)  $5\frac{54}{55}$
- 13.** (a)  $1\frac{1}{2}$  (b)  $2\frac{1}{2}$  (c)  $\frac{3}{20}$  (d)  $\frac{4}{15}$  (e) 6 (f)  $6\frac{5}{12}$
- (g)  $6\frac{2}{3}$  (h)  $5\frac{1}{2}$  (i)  $1\frac{3}{4}$
- 14.** (a)  $\frac{209}{255}$  (b)  $1\frac{2}{5}$  (c)  $\frac{53}{152}$  (d)  $\frac{18}{43}$  (e)  $\frac{16}{27}$  (f) 14
- 15.** (a)  $\frac{16}{17}$  (b) 3 (c)  $7\frac{4}{11}$  (d)  $1\frac{1}{2}$  (e)  $9\frac{1}{3}$  (f)  $2\frac{15}{52}$
- (g)  $\frac{1}{6}$  **16.**  $\frac{24}{35}$  **17.**  $\frac{6}{7}$

18. (a)  $\frac{9}{14}$  (b)  $\frac{40}{81}$  (c) 1 (d)  $\frac{2}{3}$  (e)  $\frac{1}{5}$
19. (a)  $1\frac{51}{70}$  (b)  $\frac{35}{88}$  (c)  $\frac{7}{12}$
20. (a)  $1\frac{23}{25}$  (b) 2 (c)  $\frac{4}{15}$
21. (a)  $\frac{25}{42}$  (b)  $\frac{18}{25}$  (c)  $2\frac{7}{64}$  (d)  $6\frac{3}{10}$  (e)  $2\frac{1}{4}$  (f)  $\frac{4}{15}$
22. (a)  $5\frac{29}{32}$  (b)  $\frac{1}{3}$  (c)  $1\frac{47}{49}$  23.  $18\frac{37}{48}$  kg 24.  $153\frac{13}{20}$  km
25. George;  $\frac{51}{70}$  km 26.  $74\frac{9}{10}$  L 27. ₹ 399 28.  $\frac{15}{28}$  m 29. ₹  $113\frac{3}{4}$
30. (a)  $\frac{7}{8}$  (b)  $\frac{3}{4}$  31. (a) 3 (b)  $\frac{23}{3}$  or  $7\frac{2}{3}$  32.  $\frac{7}{12}$ ,  $\frac{5}{8}$ ,  $\frac{5}{6}$
33.  $\frac{9}{16}$ ,  $\frac{17}{32}$ ,  $\frac{19}{48}$  34.  $24\frac{1}{4}$  35.  $10\frac{23}{24}$  36.  $6\frac{17}{18}$  37.  $4\frac{32}{35}$  kg 38. 21 metres.
39. 5 40.  $2\frac{1}{2}$  dozens 41. 51 litres; 17 litres 42.  $\frac{1}{100}$
43. (a) 8.01 (b) 11.107 (c) 190.006 44. (a) 5.5 (b) 54.7 (c) 1000.124
45. (a) 41.25 (b) 23.03 (c) 24.13 (d) 8.345
46. (a) 89.8199 (b) 58.4382 (c) 8848.064 (d) 1518.3643
47. 53.49 48. 20.5. 49. (a)  $5\frac{9}{20}$  (b)  $6\frac{1}{40}$  (c)  $3\frac{3}{250}$  (d)  $25\frac{63}{1000}$
50. (a) 10.125 (b) 0.868 (c) 15.375 (d) 7.6875 (e) 4.115
51. (a)  $102\frac{937}{1000}$  (b)  $75\frac{507}{1000}$  52. (a) 17.107 (b) 44.48
53. (a) 1.20, 0.08, 13.10 (b) 1.420, 14.200, 0.142 54. (a) 723.754 (b) 209.88