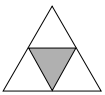
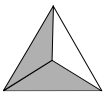
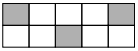
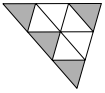
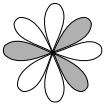
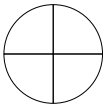
1. Fractional Numbers

1. Write the fraction representing the shaded portion:

(a)  (b)  (c) 

(d)  (e)  (f) 

2. Shade the figures to show the fractions written below them.

(a)  (b) 

3. Write a fraction for each of the following:
   (a) three-fourths (b) four-sevenths
   (c) two-fifths (d) three-tenths
   (e) one-eighth (f) five-sixths
   (g) eight-ninths (h) seven-twelfths
4. Write down the fractional number for each of the following:
   (a) $\frac{2}{3}$ (b) $\frac{4}{9}$ (c) $\frac{2}{5}$ (d) $\frac{7}{10}$ (e) $\frac{1}{3}$ (f) $\frac{3}{4}$
5. Write the numerators and the denominators of the following fractional numbers:
   (a) $\frac{3}{5}$ (b) $\frac{4}{7}$ (c) $\frac{12}{17}$ (d) $\frac{23}{35}$ (e) $\frac{57}{61}$
6. Write down the fraction in which
   (a) Numerator = 5, Denominator = 12
   (b) Numerator = 8, Denominator = 15
7. Represent each of the following fractions on the number line:
   (a) $\frac{3}{8}$ (b) $\frac{5}{9}$ (c) $\frac{4}{7}$ (d) $\frac{2}{5}$ (e) $\frac{1}{4}$
8. Ring all the like fractions:
   (a) $\frac{1}{10}, \frac{3}{10}, \frac{7}{10}, \frac{10}{7}$ (b) $\frac{19}{11}, \frac{11}{19}, \frac{15}{19}, \frac{16}{19}$
9. Which of the following are proper fractions, improper fractions and mixed fractions?
   $\frac{1}{2}, \frac{7}{4}, 2, \frac{15}{8}, \frac{16}{16}, 3\frac{6}{17}, \frac{23}{10}, \frac{3}{2}, \frac{5}{6}, \frac{9}{4}, \frac{8}{8}, 3, \frac{27}{16}, \frac{23}{31}, \frac{10}{13}, \frac{26}{26}, 3\frac{1}{4}, 1\frac{1}{2}, \frac{4}{5}, 7\frac{1}{4}, \frac{12}{1}, 9\frac{1}{3}, \frac{12}{17}, 21\frac{1}{12}, 29\frac{3}{4}$
10. Ring the unit fractions: $\frac{7}{1}, \frac{1}{2}, \frac{1}{7}, \frac{8}{1}, \frac{8}{9}, \frac{1}{9}$
11. Write each of the following divisions as fractions:
    (a) 3 ÷ 5 (b) 5 ÷ 3 (c) 7 ÷ 9 (d) 9 ÷ 1
12. Write each of the following fractions in the form of division:
    (a) $\frac{7}{9}$ (b) $\frac{8}{11}$ (c) $2\frac{1}{4}$ (d) $\frac{8}{8}$ (e) $\frac{6}{1}$
13. Express each of the following as a mixed fraction or a whole number:
    (a) $\frac{20}{3}$ (b) $\frac{11}{5}$ (c) $\frac{17}{7}$ (d) $\frac{28}{5}$ (e) $\frac{19}{6}$ (f) $\frac{35}{9}$
14. Express the following as improper fractions :
    (a) $7\frac{3}{4}$ (b) $2\frac{5}{6}$ (c) $10\frac{3}{5}$ (d) $8\frac{4}{9}$ (e) $1\frac{1}{2}$
15. Write the integral part and the fractional part of the following mixed frachons:
    (a) $2\frac{3}{4}$ (b) $4\frac{5}{7}$ (c) $9\frac{1}{2}$ (d) $10\frac{7}{8}$
16. Fill in the blanks:
    (a) $\frac{2}{3} = \frac{\cdots}{12}$ (b) $\frac{3}{4} = \frac{9}{\cdots}$ (c) $\frac{4}{7} = \frac{20}{\cdots}$
    (d) $\frac{29}{32} = \frac{\cdots}{64}$ (e) $\frac{\cdots}{5} = \frac{6}{15}$ (f) $\frac{1}{2} = \frac{\cdots}{4}$
17. Fill in the blanks so that the fractions may be equivalent:
    (a) $\frac{2}{3} = \frac{2\times2}{3\times\cdots} = \frac{2\times\cdots}{3\times3} = \frac{2\times5}{3\times\cdots} = \frac{2\times\cdots}{3\times6}$
    (b) $\frac{3}{5} = \frac{3\times2}{5\times\cdots} = \frac{3\times3}{5\times\cdots} = \frac{3\times\cdots}{5\times4} = \frac{3\times\cdots}{5\times5}$
    (c) $\frac{5}{8} = \frac{5\times2}{8\times\cdots} = \frac{5\times3}{8\times\cdots} = \frac{5\times\cdots}{8\times7} = \frac{5\times\cdots}{8\times9}$
    (d) $\frac{2}{7} = \frac{2\times6}{7\times\cdots} = \frac{2\times8}{7\times\cdots} = \frac{2\times\cdots}{7\times9} = \frac{2\times\cdots}{7\times10}$
18. (a) Write two equivalent fractions of $\frac{1}{4}$.
    (b) Write three equivalent fractons of $\frac{3}{4}$.
    (c) Write four equivalent fractions of $\frac{2}{5}$.
    (d) Write five equivalent fractions of $\frac{1}{2}$.
19. Change each of the following fractions to equivalent fractions having the denominator 32:
    (a) $\frac{1}{2}$ (b) $\frac{1}{4}$ (c) $\frac{3}{8}$ (d) $\frac{5}{16}$
20. Change each of the following fractions to equivalent fractions having the numerator 48:
    (a) $\frac{2}{3}$ (b) $\frac{3}{4}$ (c) $\frac{4}{3}$ (d) $\frac{8}{19}$
21. Are the following fractions equivalent? Write 'Yes' or 'No:
    (a) $\frac{1}{2} = \frac{5}{10}$ (b) $\frac{2}{4} = \frac{6}{7}$ (c) $\frac{3}{6} = \frac{12}{24}$ (d) $\frac{4}{9} = \frac{36}{81}$
    (e) $\frac{3}{4} = \frac{3+4}{4+4}$ (f) $\frac{11}{17} = \frac{11-2}{17-2}$
22. Write 'True' or 'False':
    (a) $\frac{4}{7} = \frac{12}{21}$ (b) $\frac{3}{5} = \frac{21}{35}$ (c) $\frac{4}{7} = \frac{24}{42}$ (d) $\frac{4}{9} = \frac{9}{14}$
23. (a) Express 6 as a fracton with 5 as the denominator.
    (b) Express 3 as a fraction with 8 as the denominator.
24. Change the following fractions to like fractions:
    (a) $\frac{1}{6}, \frac{1}{9}$ (b) $\frac{3}{4}, \frac{5}{12}$ (c) $\frac{7}{12}, \frac{8}{15}$
    (d) $\frac{7}{16}, \frac{11}{24}$ (e) $\frac{2}{5}, \frac{3}{10}, \frac{4}{15}$ (f) $\frac{1}{8}, \frac{5}{16}, \frac{9}{32}$

Write the correct sign, > or < or =, in each box

25. (a) $\frac{9}{10} \square \frac{7}{10}$ (b) $\frac{3}{7} \square \frac{6}{7}$ (c) $\frac{6}{11} \square \frac{5}{11}$
26. (a) $\frac{7}{8} \square \frac{7}{10}$ (b) $\frac{4}{11} \square \frac{4}{9}$ (c) $\frac{11}{14} \square \frac{11}{15}$
27. (a) $\frac{2}{3} \square \frac{3}{4}$ (b) $\frac{1}{2} \square \frac{1}{3}$ (c) $\frac{2}{5} \square \frac{6}{11}$
    (d) $\frac{7}{12} \square \frac{2}{5}$ (e) $\frac{3}{7} \square \frac{4}{5}$ (f) $\frac{5}{16} \square \frac{4}{17}$
28. (a) $2\frac{1}{2} \square \frac{3}{2}$ (b) $\frac{4}{3} \square 4\frac{1}{3}$ (c) $3\frac{2}{3} \square \frac{11}{3}$

Write the following fractons in ascending and descending order:

29. (a) $\frac{5}{11}, \frac{9}{11}, \frac{7}{11}, \frac{4}{11}$ (b) $\frac{11}{12}, \frac{5}{12}, \frac{7}{12}, \frac{1}{12}$
30. (a) $\frac{15}{17}, \frac{15}{19}, \frac{15}{18}, \frac{15}{31}$ (b) $\frac{31}{37}, \frac{31}{49}, \frac{31}{36}, \frac{31}{45}$

31. (a) $\frac{1}{4}, \frac{3}{4}, \frac{1}{6}, \frac{7}{10}$ (b) $\frac{1}{5}, \frac{2}{15}, \frac{3}{10}, \frac{7}{20}$
(c) $\frac{2}{3}, \frac{4}{9}, \frac{5}{12}, \frac{5}{6}$ (d) $\frac{2}{7}, \frac{3}{14}, \frac{5}{28}, \frac{4}{21}$

32. Find out if the following fractions are in the lowest terms:
(a) $\frac{6}{9}$ (b) $\frac{4}{15}$ (c) $\frac{14}{21}$ (d) $\frac{72}{77}$ (e) $\frac{51}{85}$ (f) $\frac{88}{91}$

33. Which of the following fractions are not in the lowest terms?
(a) $\frac{6}{9}$ (b) $\frac{7}{9}$ (c) $\frac{10}{70}$ (d) $\frac{85}{91}$ (e) $\frac{88}{117}$ (f) $\frac{108}{135}$

34. Reduce to the lowest terms:
(a) $\frac{2}{4}$ (b) $\frac{4}{8}$ (c) $\frac{5}{10}$ (d) $\frac{6}{8}$ (e) $\frac{2}{10}$ (f) $\frac{3}{12}$
(g) $\frac{4}{12}$ (h) $\frac{8}{12}$ (i) $\frac{2}{12}$ (j) $\frac{7}{14}$ (k) $\frac{9}{15}$ (l) $\frac{4}{16}$
(m) $\frac{8}{20}$ (n) $\frac{9}{24}$ (o) $\frac{16}{12}$ (p) $\frac{54}{12}$ (q) $\frac{24}{20}$ (r) $\frac{56}{40}$

35. Add together:
(a) $\frac{5}{17}, \frac{2}{17}$ (b) $\frac{1}{12}, \frac{4}{12}$ (c) $\frac{4}{19}, \frac{15}{19}$ (d) $\frac{7}{22}, \frac{25}{22}$

Find

36. (a) $\frac{2}{5} + \frac{1}{5}$ (b) $\frac{4}{10} + \frac{3}{10}$ (c) $\frac{5}{17} + \frac{2}{17}$
(d) $\frac{4}{18} + \frac{3}{18}$ (e) $\frac{2}{13} + \frac{4}{13}$ (f) $\frac{4}{19} + \frac{15}{19}$

37. (a) $\frac{4}{19} + \frac{7}{19} + \frac{9}{19}$ (b) $\frac{5}{12} + \frac{7}{12} + \frac{1}{12}$
(c) $\frac{15}{8} + \frac{7}{8} + \frac{1}{8}$ (d) $\frac{13}{10} + \frac{3}{10} + \frac{19}{10}$

38. (a) $\frac{3}{4} + \frac{5}{8}$ (b) $\frac{2}{5} + \frac{4}{15}$ (c) $\frac{2}{5} + \frac{1}{4}$
(d) $\frac{3}{7} + \frac{2}{3}$ (e) $\frac{2}{3} + \frac{4}{21}$ (f) $\frac{3}{10} + \frac{7}{20}$
(g) $\frac{3}{8} + \frac{25}{24}$ (h) $\frac{4}{15} + \frac{7}{30}$ (i) $\frac{3}{16} + \frac{35}{32}$

39. (a) $\frac{1}{2} + \frac{3}{4} + \frac{5}{8}$ (b) $\frac{3}{4} + \frac{5}{6} + \frac{7}{12}$
(c) $\frac{2}{5} + \frac{13}{10} + \frac{7}{15}$ (d) $\frac{3}{5} + \frac{7}{10} + \frac{31}{20}$
(e) $\frac{1}{2} + \frac{5}{6} + \frac{27}{12}$ (f) $\frac{2}{13} + \frac{1}{26} + \frac{4}{39}$
(g) $\frac{1}{2} + \frac{3}{4} + \frac{5}{8} + \frac{7}{16}$ (h) $\frac{2}{3} + \frac{3}{5} + \frac{1}{15} + \frac{4}{5}$
(i) $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{5}$ (j) $\frac{5}{12} + \frac{2}{3} + \frac{3}{4} + \frac{5}{6}$

40. (a) $5 + \frac{3}{11}$ (b) $4 + \frac{6}{13}$ (c) $7 + \frac{11}{4}$ (d) $\frac{11}{15} + 0$

41. (a) $5\frac{2}{9} + 2\frac{4}{9}$ (b) $2\frac{1}{2} + 3\frac{1}{2} + 4\frac{1}{4}$
(c) $2\frac{1}{6} + 3\frac{5}{6} + 10\frac{1}{6}$ (d) $3\frac{1}{13} + 1\frac{4}{13} + 2\frac{3}{13}$

42. (a) $2\frac{1}{2} + 1\frac{2}{3}$ (b) $3\frac{1}{3} + 2\frac{2}{9}$ (c) $4\frac{3}{4} + 3\frac{1}{8}$
(d) $6\frac{3}{8} + 10\frac{1}{16}$ (e) $3\frac{5}{8} + 2\frac{7}{12}$ (f) $2\frac{2}{15} + 1\frac{9}{20}$

43. (a) $2\frac{5}{8} + 2\frac{3}{4} + 2\frac{1}{2}$ (b) $3\frac{3}{4} + 5\frac{1}{8} + 1\frac{3}{16}$
(c) $3\frac{1}{3} + 4\frac{5}{9} + 2\frac{5}{6}$ (d) $4\frac{2}{7} + 1\frac{10}{21} + 5\frac{2}{3}$
(e) $1\frac{5}{8} + 2\frac{7}{12} + 3\frac{3}{4}$ (f) $2\frac{1}{16} + 3\frac{5}{12} + 4\frac{1}{4}$

44. (a) $\frac{11}{8} + 2\frac{3}{16}$ (b) $1\frac{3}{10} + \frac{7}{10}$
(c) $2 + \frac{6}{21} + 3\frac{4}{7}$ (d) $4\frac{3}{4} + 3 + 3\frac{1}{12}$

45. (a) $\frac{7}{9} - \frac{4}{9}$ (b) $\frac{7}{12} - \frac{6}{12}$ (c) $\frac{25}{36} - \frac{11}{36}$
(d) $\frac{20}{51} - \frac{16}{51}$ (e) $\frac{79}{89} - \frac{47}{89}$ (f) $\frac{15}{92} - \frac{13}{92}$

46. (a) $\frac{3}{8} - \frac{1}{4}$ (b) $\frac{23}{40} - \frac{1}{8}$ (c) $\frac{11}{12} - \frac{5}{16}$
(d) $\frac{7}{16} - \frac{5}{24}$ (e) $\frac{8}{15} - \frac{3}{20}$ (f) $\frac{7}{24} - \frac{5}{36}$

47. (a) $12\frac{3}{4} - \frac{1}{2}$ (b) $7\frac{7}{9} - \frac{1}{3}$ (c) $4\frac{3}{7} - \frac{1}{14}$

48. (a) $6\frac{3}{4} - 4\frac{1}{4}$ (b) $7\frac{8}{9} - 5\frac{2}{3}$ (c) $8\frac{9}{10} - 3\frac{3}{5}$
(d) $3\frac{2}{16} - 1\frac{3}{8}$ (e) $4\frac{5}{18} - 2\frac{4}{9}$ (f) $5\frac{3}{8} - 1\frac{1}{24}$

49. (a) $3 - \frac{2}{11}$ (b) $6 - \frac{5}{12}$ (c) $8 - 3\frac{2}{5}$

50. (a) $\frac{3}{10} - 0$ (b) $\frac{15}{8} - 0$ (c) $2\frac{1}{3} - 0$
(d) $\frac{2}{9} - \frac{2}{9}$ (e) $\frac{10}{3} - \frac{10}{3}$ (f) $3\frac{4}{9} - 3\frac{4}{9}$

51. Use repeated addition to find the following:
(a) $3 \times \frac{1}{4}$ (b) $6 \times \frac{3}{5}$ (c) $2 \times \frac{4}{7}$ (d) $4 \times \frac{2}{3}$

Multiply:

52. (a) $\frac{7}{2}$ of 6 (b) $\frac{5}{12}$ of 60 (c) $\frac{8}{3}$ of 9 (d) $\frac{2}{15}$ of 75

53. (a) $\frac{5}{11}$ of ₹ 220 (b) $\frac{4}{9}$ of 54 metres
(c) $\frac{6}{7}$ of 35 litres (d) $\frac{1}{6}$ of an hour
(e) $\frac{5}{6}$ of an year (f) $\frac{7}{20}$ of a kg
(g) $\frac{9}{20}$ of a metre (h) $\frac{7}{8}$ of a day
(i) $\frac{3}{7}$ of a week (j) $\frac{7}{50}$ of a litre

54. (a) How much is 4 times $\frac{1}{8}$?
(b) How much is 5 times $\frac{3}{20}$?

Find:

55. (a) $7 \times \frac{2}{11}$ (b) $8 \times \frac{7}{9}$ (c) $9 \times \frac{4}{11}$
(d) $\frac{5}{12} \times 11$ (e) $\frac{17}{11} \times 12$ (f) $\frac{1}{13} \times 28$

56. (a) $3\frac{1}{4} \times 5$ (b) $4\frac{1}{3} \times 7$ (c) $9\frac{1}{2} \times 3$
(d) $2\frac{1}{3} \times 8$ (e) $3\frac{1}{2} \times 9$ (f) $4\frac{1}{2} \times 7$
(g) $10 \times 6\frac{1}{3}$ (h) $11 \times 2\frac{1}{3}$ (i) $17 \times 1\frac{1}{2}$

57. (a) $\frac{2}{3} \times \frac{2}{7}$ (b) $\frac{4}{7} \times \frac{2}{5}$ (c) $\frac{6}{13} \times \frac{2}{5}$
(d) $\frac{7}{15} \times \frac{5}{8}$ (e) $\frac{9}{16} \times \frac{4}{9}$ (f) $\frac{8}{13} \times \frac{7}{12}$

58. (a) $1\frac{1}{2} \times \frac{5}{7}$ (b) $1\frac{1}{3} \times \frac{7}{8}$ (c) $2\frac{1}{2} \times \frac{3}{8}$
(d) $\frac{9}{11} \times 2\frac{1}{4}$ (e) $\frac{6}{13} \times 3\frac{2}{5}$ (f) $\frac{4}{7} \times 5\frac{1}{3}$

59. (a) $4\frac{1}{4} \times 1\frac{1}{3}$ (b) $9\frac{1}{12} \times 2\frac{2}{5}$ (c) $5\frac{1}{3} \times 5\frac{1}{4}$

60. (a) $2\frac{2}{3} \times \frac{5}{12}$ (b) $1\frac{3}{4} \times \frac{8}{15}$ (c) $\frac{12}{25} \times 6\frac{2}{3}$
(d) $20 \times 3\frac{1}{5}$ (e) $1\frac{1}{4} \times 2\frac{2}{5}$ (f) $3\frac{3}{8} \times 5\frac{1}{9}$
(g) $5\frac{1}{7} \times 5\frac{1}{9}$ (h) $8\frac{1}{8} \times 28$

61. (a) 5 times $1\frac{4}{15}$ (b) 12 times $2\frac{5}{24}$

62. Fill in the blanks:
(a) $\frac{1}{4}$ of a rupee = ☐ paise
(b) $\frac{3}{8}$ of two rupees = ☐ paise
(c) $\frac{3}{5}$ of fifty rupees = ☐ rupees
(d) $\frac{7}{10}$ of four rupees = ☐ paise

63. Fill in the blanks:
(a) $\frac{2}{5}$ of a kg = ☐ g (b) $\frac{1}{100}$ of 30 kg = ☐ g

64. Write the reciprocals (multiplicative inverses) of the following:
(a) $\frac{1}{2}$ (b) $\frac{1}{3}$ (c) $\frac{1}{4}$ (d) 7 (e) 11 (f) 45
(g) $\frac{4}{5}$ (h) $\frac{6}{7}$ (i) $\frac{9}{11}$ (j) $1\frac{4}{5}$ (k) $2\frac{3}{7}$ (l) $3\frac{4}{5}$

Divide:

65. (a) 3 by $1\frac{1}{2}$ (b) 5 by $2\frac{1}{2}$ (c) 4 by $3\frac{1}{3}$
(d) $1\frac{1}{2}$ by 3 (e) $2\frac{1}{2}$ by 5 (f) $4\frac{2}{3}$ by 6
(g) $\frac{2}{7}$ by 5 (h) $\frac{12}{7}$ by 14 (i) 15 by $\frac{3}{10}$

(j) $\frac{4}{7}$ by $\frac{2}{3}$ (k) $\frac{3}{11}$ by $\frac{2}{7}$ (l) $\frac{7}{6}$ by $\frac{2}{21}$

(m) $\frac{3}{4}$ by 3 (n) $\frac{8}{5}$ by 4 (o) $\frac{14}{25}$ by 7

(p) $\frac{1}{2}$ by 3 (q) $\frac{3}{16}$ by 3 (r) $\frac{14}{15}$ by 7

(s) $\frac{1}{6}$ by $\frac{1}{3}$ (t) $\frac{2}{15}$ by $\frac{1}{15}$ (u) $\frac{1}{5}$ by $\frac{2}{25}$

(v) $\frac{7}{9}$ by $\frac{28}{45}$ (w) $\frac{11}{12}$ by $\frac{33}{24}$ (x) $\frac{15}{16}$ by $\frac{75}{128}$

Find:

66. (a) $1\frac{1}{2} \div 3$ (b) $1\frac{1}{3} \div 4$ (c) $2\frac{1}{5} \div 11$

(d) $3\frac{2}{7} \div 92$ (e) $63 \div 2\frac{1}{4}$ (f) $72 \div 9\frac{1}{7}$

67. (a) $\frac{1}{2} \div 2$ (b) $\frac{1}{4} \div 2$ (c) $\frac{1}{2} \div 4$

(d) $\frac{1}{3} \div 3$ (e) $\frac{1}{5} \div 4$ (f) $\frac{1}{6} \div 5$

68. (a) $2\frac{1}{3} \div 7$ (b) $3\frac{1}{4} \div 26$ (c) $5\frac{1}{4} \div 42$

(d) $7\frac{2}{3} \div 46$ (e) $11\frac{2}{5} \div 57$ (f) $12\frac{3}{4} \div 102$

69. (a) $4 \div \frac{4}{5}$ (b) $13 \div \frac{1}{6}$ (c) $15 \div \frac{1}{8}$

70. (a) $16 \div \frac{8}{3}$ (b) $21 \div 3\frac{1}{2}$ (c) $25 \div 7\frac{1}{2}$

(d) $35 \div 3\frac{3}{4}$ (e) $67 \div 9\frac{4}{7}$ (f) $99 \div 2\frac{5}{47}$

71. (a) $\frac{12}{49} \div \frac{3}{7}$ (b) $\frac{25}{39} \div \frac{10}{13}$ (c) $\frac{16}{63} \div \frac{4}{27}$

(d) $\frac{4}{7} \div \frac{2}{21}$ (e) $\frac{5}{48} \div \frac{5}{24}$ (f) $\frac{3}{28} \div \frac{5}{14}$

72. (a) $1\frac{1}{4} \div \frac{5}{8}$ (b) $\frac{12}{49} \div \frac{11}{15}$ (c) $\frac{12}{49} \div \frac{27}{50}$

(d) $1\frac{2}{3} \div 6\frac{1}{4}$ (e) $3\frac{3}{10} \div 5\frac{1}{2}$ (f) $10\frac{1}{2} \div 4\frac{2}{3}$

73. (a) $3\frac{1}{4} \div \frac{1}{8}$ (b) $5\frac{2}{3} \div \frac{1}{6}$ (c) $16\frac{3}{5} \div \frac{1}{25}$

(d) $\frac{1}{5} \div 1\frac{1}{10}$ (e) $\frac{2}{7} \div 2\frac{3}{14}$ (f) $\frac{3}{8} \div 2\frac{3}{16}$

(g) $6\frac{2}{3} \div 2\frac{2}{9}$ (h) $11\frac{2}{5} \div 3\frac{3}{4}$ (i) $6\frac{2}{3} \div 13\frac{1}{3}$

Simplify:

74. (a) $\frac{11}{12} - \frac{5}{12} + \frac{1}{12}$ (b) $\frac{10}{13} + \frac{5}{13} - \frac{3}{13}$

(c) $\frac{16}{23} - \frac{3}{23} - \frac{11}{23}$ (d) $\frac{21}{25} - \frac{7}{25} + \frac{11}{25}$

75. (a) $\frac{8}{9} + \frac{1}{9} - \frac{7}{9} + \frac{4}{9}$ (b) $\frac{8}{17} + \frac{3}{17} + \frac{1}{17} - \frac{11}{17}$

76. (a) $\frac{7}{8} - \frac{3}{4} + \frac{1}{2}$ (b) $\frac{5}{12} + \frac{5}{8} - \frac{5}{16}$

(c) $3 - \frac{11}{12} + \frac{5}{8}$ (d) $11 + \frac{7}{9} - \frac{5}{6}$

77. (a) $3\frac{6}{7} - 1\frac{2}{3} - \frac{20}{21}$ (b) $1\frac{1}{15} - 2\frac{3}{5} + 5\frac{7}{10}$

(c) $4 + 1\frac{5}{6} - 2\frac{3}{8}$ (d) $5 - 2\frac{1}{7} - 1\frac{3}{5}$

78. (a) $\frac{42}{65} \times \frac{39}{59} \times \frac{24}{27}$ (b) $6\frac{7}{8} \times 6\frac{2}{11} \times \frac{3}{10}$

(c) $2\frac{1}{9} \times \frac{5}{38} \times 2\frac{1}{5}$ (d) $4\frac{5}{8} \times \frac{27}{35} \times 7 \times 1\frac{3}{37}$

(e) $\frac{5}{21} \times \frac{7}{15} \times 2\frac{1}{4} \times \frac{12}{35} \times 23\frac{1}{3}$

79. (a) $\frac{4}{5} \div \frac{7}{15}$ of $\frac{8}{9}$ (b) $\frac{4}{5} \div \frac{7}{15} \times \frac{8}{9}$

(c) $5\frac{1}{4} \div \frac{3}{7} \times \frac{1}{2}$ (d) $5\frac{1}{4} \div \frac{3}{7}$ of $\frac{1}{2}$

(e) $\frac{7}{8} + 2\frac{5}{6} - \frac{11}{12} \times 3\frac{3}{11}$ (f) $3\frac{3}{4} \div \frac{7}{8} \times 4\frac{1}{6} \times 1\frac{13}{15}$

(g) $\frac{1}{2} + 1\frac{1}{2} \div 1\frac{1}{2} \times \frac{2}{3} - \frac{1}{4}$

(h) $1\frac{4}{5} - 2\frac{3}{4}$ of $\frac{8}{11} + \frac{3}{8} \div \frac{9}{10}$

(i) $9\frac{1}{3} \div \frac{3}{5}$ of $\frac{7}{9} \times \frac{4}{5}$

(j) $\frac{3}{5}$ of $1\frac{3}{7} \div \frac{2}{5} - \frac{1}{2} + \frac{2}{3} \times \frac{6}{7}$

(k) $7\frac{1}{3} \div 3\frac{2}{3}$ of $2 + 4\frac{1}{2} \div 2\frac{1}{4} - 2\frac{1}{2}$

(l) 25 of $\frac{3}{5} \div 1\frac{2}{3} + 3$ of $\frac{1}{3} \div 10$

80. (a) $\left(\frac{4}{9} + \frac{7}{9}\right) \times 2\frac{1}{4}$ (b) $\frac{3}{8} \div \left(1\frac{7}{8} - \frac{3}{4}\right)$

(c) $6 + \left\{1 + \frac{1}{2} + \left(\frac{3}{4} - \frac{1}{2}\right)\right\}$

(d) $\left\{\left(13\frac{1}{3} - 12\frac{1}{2}\right) \div \frac{5}{6}\right\}$ of $\frac{3}{8}$

(e) $2\frac{1}{2} - \left\{\frac{13}{4} - \left(3\frac{1}{2} - 1\frac{3}{4}\right)\right\}$

(f) 140 - [4 + {12 × (7 - 5)}]

(g) $4\frac{1}{2} - \left[1 + \left\{2\frac{1}{2} - \left(\frac{1}{3} - \frac{1}{4}\right)\right\}\right]$

(h) $3\frac{1}{12} - \left[1\frac{3}{4} + \left\{2\frac{1}{2} - \left(1\frac{1}{2} - \frac{1}{3}\right)\right\}\right]$

(i) $3\frac{1}{3}$ of $\frac{1}{2} + 2 \div \left[2 \times \left\{2 - \left(2 - \frac{1}{5}\right)\right\}\right]$

(j) $5\frac{1}{2} - \left[2\frac{1}{3} \div \left\{\frac{3}{4} - \frac{1}{2} \times \left(\frac{2}{3} - \frac{1}{24}\right)\right\}\right]$

(k) $\left[2 + 5 \times \left\{1\frac{1}{2} + \left(\frac{3}{4} - \frac{1}{10}\right)\right\}\right] + 1\frac{1}{2}$

2. Decimals

1. Write each of the following in figures:
   (a) Fifty-eight point six three
   (b) One hundred twenty-four point four two five
   (c) Seven point seven six
   (d) Nineteen point eight
   (e) Four hundred four point zero four four
   (f) Point one seven three
   (g) Point zero one five
2. Read each of the following decimal fractions:
   (a) 2.3 (b) 15.67 (c) 278.789 (d) 1234.5678
3. Write the integral parts of the following decimal fractions:
   (a) 7.1 (b) 12.651 (c) 167.4 (d) 2345.678
4. Write the fractional parts of the following decimal fractions:
   (a) 6.5 (b) 27.34 (c) 175.678 (d) 2929.38387
5. Write the place value of each digit in each of the following decimals:
   (a) 275.269 (b) 46.075 (c) 5370.34 (d) 186.209
6. Write each of the following decimals in expanded form:
   (a) 24.675 (b) 0.294 (c) 8.006 (d) 4615.72
7. Write each of the following in decimal form:
   (a) $40 + 6 + \frac{7}{10} + \frac{9}{100}$ (b) $600 + 5 + \frac{7}{10} + \frac{9}{100}$
   (c) $800 + 5 + \frac{8}{10} + \frac{6}{100}$ (d) $30 + 9 + \frac{4}{10} + \frac{8}{100}$
   (e) $700 + 30 + 1 + \frac{8}{10} + \frac{4}{100}$
   (f) $500 + 70 + 8 + \frac{3}{10} + \frac{1}{100} + \frac{6}{1000}$
8. Fill in the blanks with >,< or =.
   (a) 0.1 □ 0.01 (b) 2.32 □ 1.99
   (c) 16.123 □ 16.12300 (d) 252.9111 □ 252.099
   (e) 13.99 □ 14 (f) 8.431 □ 8.413
9. Arrange the following decimals in ascending order:
   (a) 5.8. 7.2. 5.69. 7.14, 5.06
   (b) 0.6, 6.6, 6.06, 66.6, 0.06
   (c) 6.54. 6.45, 6.4, 6.5, 6.05
   (d) 3.3, 3.303, 3.033, 0.33, 3.003

10. Arrange the following decimals in descending order:
    (a) 7.3. 8.73. 73.03. 7.33. 8.073
    (b) 3.3, 3.03, 30.3, 30.03, 3.003
    (c) 2.7. 7.2. 2.27. 2.72, 2.02, 2.007
    (d) 8.88, 8.088, 88.8, 88.08, 8.008
11. Write the following fractional numbers as decimal fractions:
    (a) $\frac{9}{10}$ (b) $\frac{11}{100}$ (c) $\frac{17}{1000}$ (d) $\frac{31}{10000}$ (e) $3\frac{19}{100}$
12. Convert each of the following into a fraction in its simplest form:
    (a) .9 (b) 0.6 (c) .08 (d) 0.15 (e) 0.48
    (f) .053 (g) 0.125 (h) .224 (i) 0.23 (j) 0.357
    (k) 5.4567 (l) 12.05
13. Convert each of the following as a mixed fraction:
    (a) 6.4 (b) 16.5 (c) 8.36 (d) 4.275
    (e) 25.06 (f) 7.004 (g) 2.052 (h) 3.108
14. Convert each of the following into a decimal:
    (a) $\frac{23}{10}$ (b) $\frac{167}{100}$ (c) $\frac{1589}{100}$ (d) $\frac{5413}{1000}$ (e) $\frac{21415}{1000}$
    (f) $\frac{25}{4}$ (g) $3\frac{3}{5}$ (h) $1\frac{4}{25}$ (i) $\frac{37}{50}$ (j) $\frac{107}{250}$
    (k) $\frac{3}{40}$ (l) $\frac{7}{8}$ (m) $1\frac{1}{25}$ (n) $7\frac{7}{8}$ (o) $10\frac{1}{20}$

Using decimals, express

15. (a) 8 kg 640 g in kilograms
    (b) 9 kg 37 g in kilograms
    (c) 540 g in kilograms
16. (a) 4 km 365 m in kilometres
    (b) 5 km 87 m in kilometres
    (c) 270 m in kilometres
    (d) 35 m in kilometres
17. (a) ₹ 18 and 25 paise in rupees
    (b) ₹ 9 and 8 paise in rupees
    (c) 32 paise tn rupees
    (d) 5 paise in rupees
18. Add:
    (a) 0.275 and 0.425
    (b) 0.001, 2.9 and 0.0002
    (c) 39.101, 0.064 and 47 1.98
    (d) 11.146, 0.2567, 9.23865 and 256
    (e) 9.6, 14.8, 37 and 5.9
    (f) 23.7, 106.94, 68.9 and 29.5
    (g) 72.8, 7.68, 16.23 and 0.7
    (h) 18.6, 84.75. 8.345 and 9.7
    (i) 8.236, 16.064, 63.8 and 27.53
    (j) 28.9, 19.64, 123.697 and 0.354
    (k) 4.37, 9.638, 17.007 and 6.8
    (l) 14.5, 0.038, 118.573 and 6.84

Find

19. (a) Rs 3.45 + Rs 15.50 + Rs 3.05
    (b) 7.25 m + 2.45 m + 12.75 m
    (c) 35.280 l + 42.500 l + 8.700 l + 15 l
    (d) 90.250 kg + 186.450 kg + 1001.750 kg + 98 kg
20. (a) 9.0005 - 7.462 (b) 10 - 0.0002
    (c) Rs 5.50 - Rs 4.80 (d) 36.50 km - 10.85 km
    (e) 13 m - 10.400 m (f) 87.1251 - 16.250 1
    (g) 400 kg - 1 50.650 kg (h) 25 kg - 18.950 kg
21. Subtract:
    (a) 27.86 from 53.74 (b) 59.63 from 92.4
    (c) 56.8 from 204 (d) 127.38 from 216.2
    (e) 39.875 from 70.68 (f) 348.237 from 523.12
    (g) 458.573 from 600 (h) 0.612 from 3.4

Multiply:

22. (a) 0.2 × 4 (b) 0.4 × 12 (c) 9.1 × 11
    (d) 13.5 × 17 (e) 0.12 × 62 (f) 4.32 × 51
    (g) 2.007 × 36 (h) 3.125 × 86 (i) 4.028 × 234
23. (a) 2.34 × 10 (b) 89.015 × 10 (c) 134.2 × 10
    (d) 4.34 × 100 (e) 1.325 × 100 (f) 8.7 × 100
24. (a) 1.67895 × 1000 (b) 76.2583 × 10000
    (c) 0.125 × 100000 (d) 19.35 × 10000
    (e) 0.00045 × 100000 (f) 20.012 × 10000
25. (a) 0.1 × 0.2 (b) 0.5 × 10.5 (c) 1.3 × 0.4
    (d) 0.01 × 0.6 (e) 3.3 × 3.3 (f) 7.5 × 5.7
26. (a) 0.235 × 0.48 (b) 0.427 × 0.235
    (c) 2.4327 × 4.23 (d) 1.0003 × 0.53
    (e) 0.009 × 2.12 (f) 3.00704 × 4.0205
27. (a) 1 × 5.4 (b) 732.001 × 1 (c) 51.8 × 0
28. (a) 0.2 × 0.2 × 0.2 (b) 0.4 × 7.6 × 0.55
    (c) 0.407 × 4.36 × 0.06 (d) 1.01 × 4.1 × 0.001
    (e) 0.52 × 0.07 × 4.3 × 0.02
29. (a) 3.9 ÷ 3 (b) 18.9 ÷ 9 (c) 25.5 ÷ 5
    (d) 80.8 ÷ 8 (e) 1.4 ÷ 7 (f) 4.8 ÷ 8
30. (a) 60.72 ÷ 12 (b) 55.55 ÷ 11 (c) 128.48 ÷ 16
    (d) 9.09 ÷ 15 (e) 0.175 ÷ 25 (f) 0.0455 ÷ 35
31. (a) 617.313 ÷ 15 (b) 527.34 ÷ 85
    (c) 426.478 ÷ 16 (d) 0.07849782 ÷ 72
    (e) 0.00463 ÷ 50 (f) 1.2 ÷ 25
    (g) 0.0042 ÷ 125 (h) 773.682 ÷ 169
    (i) 2078.61 ÷ 579 (j) 00.00019517 ÷ 673
    (k) 2.4 ÷ 625 (l) 0.217 ÷ 1250
    (m) 431.376 ÷ 8170 (n) 0.001007 ÷ 47500
32. (a) 14.23 ÷ 10 (b) 0.456 ÷ 10
    (c) 237.56 ÷ 100 (d) 8.12 ÷ 100
    (e) 0.623 ÷ 100 (f) 8123.5 ÷ 1000
    (g) 425.67 ÷ 1000 (h) 0.76 ÷ 1000
33. (a) 7.1 ÷ 100 (b) 23.45 ÷ 1000
    (c) 6.14 ÷ 10000 (d) 100.23 ÷ 10000
    (e) 9.2 ÷ 10000 (f) 0.3 ÷ 100000

Divide :

34. (a) 36.48 by 20 (b) 458.5 by 50
    (c) 374.96 80 (d) 12.04 by 400
    (e) 545.1 by 600 (f) 21.07 by 7000
35. (a) 1.5 ÷ 0.3 (b) 6.4 ÷ 0.4 (c) 4.94 ÷ 0.7
    (d) 1.296 ÷ 0.108 (e) 44.1 ÷ 2.1 (f) 2.52 ÷ 1.2
    (g) 0.625 ÷ 0.025 (h) 31.5 ÷ 1.5 (i) 9.69 ÷ 1.9
    (j) 0.00169 ÷ 1.3 (k) 2.05 ÷ 2.5 (l) 7.45 ÷ 0.32
    (m) 108.997 ÷ 2.3
36. (a) 1 ÷ 0.5 (b) 16 ÷ 0.08 (c) 148 ÷ 0.074
    (d) 210 ÷ 1.25 (e) 1032 ÷ 2.064 (f) 9894 ÷ 3.88
37. (a) 2 ÷ 5 (b) 3 ÷ 8 (c) 16 ÷ 64
    (d) 56 ÷ 224 (e) 12 ÷ 8 (f) 1500 ÷ 6000
38. (a) 3 ÷ 0.8 (b) 11 ÷ 0.4 (c) 7 ÷ 1.25
39. Simplify:
    (a) 37.6 + 72.85 - 58.678 - 6.09
    (b) 75.3 - 104.645 + 178.96 - 47.9
    (c) 213.4 - 56.84 - 1 1.87 - 16.087
    (d) 76.3 - 7.666 - 6.77
    (e) 5 - 0.005 - 0.05 + 0.5