

SET 1: Basic Mathematics

Tutorial 3

1. Evaluate:

- (a) $\frac{5}{8} + \frac{1}{2}$ [Ans. $\frac{9}{8}$]
- (b) $\frac{3}{5} - \frac{1}{7}$ [Ans. $\frac{16}{35}$]
- (c) $3\frac{1}{4} + 7\frac{1}{2}$ [Ans. $\frac{43}{4}$ or $10\frac{3}{4}$]
- (d) $3\frac{3}{4} - 2\frac{1}{8}$ [Ans. $\frac{13}{8}$ or $1\frac{5}{8}$]
- (e) $\frac{3}{5} + \frac{1}{4} - \frac{2}{3}$ [Ans. $\frac{11}{60}$]
- (f) $\frac{3}{22} \times \frac{11}{15} \times \frac{2}{3}$ [Ans. $\frac{1}{15}$]
- (g) $\frac{3}{7} \times \frac{21}{25} \times \frac{20}{24}$ [Ans. $\frac{3}{10}$]
- (h) $6\frac{2}{5} \times 3\frac{1}{4} \times 2\frac{1}{2}$ [Ans. 52]
- (i) $\frac{3}{10} \div \frac{15}{40}$ [Ans. $\frac{4}{5}$]
- (j) $5\frac{1}{2} \div 3\frac{1}{7}$ [Ans. $\frac{7}{4}$ or $1\frac{3}{4}$]

2. Find the value of:

- (a) $14.265 + 18.196 + 22.107$ [Ans. 54.568]
- (b) $345.763 - 129.487$ [Ans. 216.276]
- (c) $31.208 + 40.341 - 19.295$ [Ans. 52.254]
- (d) $185.32 - 129.37 + 412.63$ [Ans. 468.58]
- (e) 36.124×23.2 [Ans. 838.0768]
- (f) 41.56×20.44 [Ans. 849.4864]
- (g) 6.03×0.152 [Ans. 0.91656]
- (h) 87.13×10 [Ans. 871.3]
- (i) 48.197×100 [Ans. 4819.7]
- (j) 8.65847×1000 [Ans. 8658.47]
- (k) 540.286×10 [Ans. 5402.86]
- (l) $678.169 \div 10$ [Ans. 67.8169]
- (m) $4921.34 \div 100$ [Ans. 49.2134]

(n) $803765 \div 1000$ [Ans. 80.3765]

3. Round the following numbers to 3 decimal places:

(a) 65.372254 [Ans. 65.372]

(b) 732.05896 [Ans. 732.059]

(c) 208.519572 [Ans. 208.520]

4. Round the following numbers to 4 significant figures:

(a) 46.257439 [Ans. 46.26]

(b) 749.82176 [Ans. 749.8]

(c) 80.49631 [Ans. 80.50]

(d) 0.0064829 [Ans. 0.006483]

5. The length and the width of a hall are 20 m and 18 m respectively. Find the length to width ratio expressed in the simplest form. [Ans. 10 : 9]

6. The men to women ratio of people who work in a company is 7 : 8. If the number of women is 360, find the number of men who work in this company. [Ans. 315]

7. Water, cement, sand and gravel are used in the ratio of 1 : 2 : 3 : 4 to produce a concrete mix. Find the volume of each of the four components that is needed to produce 25 m^3 of this concrete mix.

[Ans. water = 2.5 m^3 , cement = 5 m^3 , sand = 7.5 m^3 , gravel = 10 m^3]

8. Express the following as percentages:

(a) 45.728 [Ans. 4572.8%]

(b) 2.006 [Ans. 200.6%]

(c) 49.1 [Ans. 4910%]

(d) 0.821 [Ans. 82.1%]

(e) 76 [Ans. 7600%]

(f) $\frac{23}{50}$ [Ans. 46%]

(g) $\frac{3}{8}$ [Ans. 37.5%]

(h) $3\frac{1}{8}$ [Ans. 312.5%]

(i) $4\frac{1}{5}$ [Ans. 420%]

9. Express the following as decimal fractions:

(a) 34% [Ans. 0.34]

(b) 25% [Ans. 0.25]

(c) 6.58% [Ans. 0.0658]

10. Express the following as proper fractions in the simplest form:

(a) 85% [*Ans.* $\frac{17}{20}$] (b) 38% [*Ans.* $\frac{19}{50}$] (c) 60% [*Ans.* $\frac{3}{5}$] (d) 44.5% [*Ans.* $\frac{89}{200}$]

11. Express the following as mixed numbers:

(a) 560% [*Ans.* $5\frac{6}{10}$] (b) 345% [*Ans.* $3\frac{9}{20}$] (c) 423% [*Ans.* $4\frac{23}{100}$] (d) 650% [*Ans.* $6\frac{1}{2}$]

12. Evaluate the following:

(a) 42.5% of 140 [*Ans.* 59.5]
(b) 72.2% of 66 [*Ans.* 47.652]
(c) 40.8% of 300 [*Ans.* 122.4]
(d) 23.6% of 45 [*Ans.* 10.62]

13. Ahmed was able to correctly answer 84% of the questions of an exam which includes 50 questions. How many questions he couldn't answer? [*Ans.* 8]

14. A box contains 250 balls with three different colors. 48% of the balls are red, 18% are blue and the rest are green. Find the number of balls of each color. [*Ans.* red = 120, blue = 45, green = 85]

15. A man spends 20% of his monthly income on food, 15% on house rent and 8% on other expenses; and he saves the remaining part of his income. If the monthly income of this man is OMR 2500, calculate the amount he spend on food, house rent and other expenses; and the amount that he saves monthly.
[*Ans.* food = OMR 500, house rent = OMR 375, others = OMR 200, saving = OMR 1425]