

1. Express each fraction as a decimal:

- (a) $\frac{21}{100}$ (c) $\frac{129}{100}$ (e) $\frac{9}{20}$
 (b) $\frac{53}{1000}$ (d) $\frac{17}{50}$ (f) $\frac{107}{250}$

2. Express as an improper fraction or mixed numeral:

- (a) 0.67 (d) 4.0309
 (b) 0.051 (e) 0.35
 (c) 9.23 (f) 2.5

3. Evaluate:

- (a) $146.95 + 8.487 + 92.664$
 (b) $3.861 + 512.99 + 73.065$
 (c) $637.4 - 285.6$
 (d) $458.7 - 96.08$
 (e) $843 - 465.72$

4. Evaluate:

- (a) 0.3×4 (d) 0.06×0.7
 (b) 0.12×7 (e) 0.12×0.5
 (c) 9×1.08 (f) 0.34×5.7

5. Evaluate:

- (a) $1.2 \div 3$ (d) $9.68 \div 0.5$
 (b) $6.3 \div 9$ (e) $7.2702 \div 0.003$
 (c) $0.66 \div 0.3$ (f) $18.078 \div 0.0006$

6. Round off each decimal, correct to 2 decimal places:

- (a) 0.329
 (b) 1.694
 (c) 12.085
 (d) 25.398

7. Convert each fraction to a decimal:

- (a) $\frac{3}{8}$ (c) $\frac{5}{9}$ (e) $\frac{8}{11}$
 (b) $\frac{7}{16}$ (d) $\frac{1}{6}$ (f) $\frac{11}{12}$

8. Convert to a fraction:

- (a) 50% (c) 75%
 (b) 56% (d) $33\frac{1}{3}\%$

9. Convert to a decimal:

- (a) 77% (c) 25%
 (b) 7% (d) $12\frac{1}{2}\%$

10. Convert to a percentage:

- (a) 0.05 (c) $\frac{1}{5}$
 (b) 3.56 (d) $\frac{9}{7}$

11. (a) What percentage of 60 is 40?

(b) Express 150 g as a percentage of $\frac{1}{2}$ kg.

(c) 1750 mm is what percentage of 2 m?

(d) A mark of 37 out of 45 represents what mark as a percentage?

(e) Express \$1.40 as a percentage of \$1.25.

12. Find:

(a) 12% of \$1.20 (c) 12.5% of \$180

(b) 70% of 1 kg (d) $\frac{1}{2}\%$ of 1 million.

13. (a) If 5% of an amount is 240, find the full amount.

(b) If 10% of an amount is 7.5, find the full amount.

Decimals & Percentages

$$1a) \frac{21}{100} = \underline{0.21}$$

$$b) \frac{53}{1000} = \underline{0.053}$$

$$c) \frac{129}{100} = \underline{1.29}$$

$$d) \frac{17}{50} = \frac{34}{100} \\ = \underline{0.34}$$

$$e) \frac{9}{20} = \frac{45}{100} \\ = \underline{0.45}$$

$$f) \frac{107}{250} = \frac{428}{1000} \\ = \underline{0.428}$$

$$2a) 0.67 = \frac{67}{100}$$

$$b) 0.051 = \frac{51}{1000}$$

$$c) 9.23 = \frac{923}{100} \quad \text{or} \quad 9 \frac{23}{100}$$

$$d) 4.0309 = \frac{40309}{10000} \quad \text{or} \quad 4 \frac{309}{10000}$$

$$e) 0.35 = \frac{35}{100} \\ = \frac{7}{20}$$

$$f) 2.5 = \frac{25}{10} \\ = \frac{5}{2} \quad \text{or} \quad 2 \frac{1}{2}$$

$$3a) 146.950 \\ 008.487 + \\ \underline{1092.2664} \\ 248.101$$

$$b) 003.861 \\ 512.990 + \\ \underline{073.2065} \\ 589.116$$

$$c) 6'37.4 \\ \underline{285.6} \\ 351.8$$

$$d) 458.70 \\ \underline{1096.08} \\ 362.62$$

$$\begin{array}{r}
 e) \quad 843 \cdot 00 \\
 465 \cdot 72 \\
 \hline
 377 \cdot 28
 \end{array}$$

$$4a) \quad 0.3 \times 4 = \underline{1.2}$$

$$b) \quad 0.12 \times 7 = \underline{0.84}$$

$$c) \quad 9 \times 1.08 = \underline{9.72}$$

$$d) \quad 0.06 \times 0.7 = \underline{0.042}$$

$$e) \quad 0.12 \times 0.5 = \underline{0.06}$$

$$34 \times 57 = 34 \times 60$$

$$- 3 \times 31$$

$$= 2040 - 102$$

$$= 1938$$

$$f) \quad 0.34 \times 5.7 = \underline{1.938}$$

$$5a) \quad 1.2 \div 3 = \underline{0.4}$$

$$b) \quad 6.3 \div 9 = \underline{0.7}$$

$$\begin{aligned}
 c) \quad 0.66 \div 0.3 &= 6.6 \div 3 \\
 &= \underline{2.2}
 \end{aligned}$$

$$\begin{aligned}
 d) \quad 9.68 \div 0.5 &= 96.8 \div 5 \\
 &= \underline{19.36}
 \end{aligned}$$

$$\begin{aligned}
 e) \quad 7.2702 \div 0.003 &= 7270.2 \div 3 \\
 &= \underline{2423.4}
 \end{aligned}$$

$$\begin{aligned}
 f) \quad 18.078 \div 0.0006 &= 180780 \div 6 \\
 &= \underline{30130}
 \end{aligned}$$

$$6a) \quad \underline{0.33}$$

$$b) \quad \underline{1.69}$$

$$c) \quad \underline{12.07}$$

$$d) \quad \underline{25.40}$$

$$\begin{array}{r}
 7a) \quad 0.375 \\
 8 \overline{) 3.0000}
 \end{array}$$

$$\begin{array}{r}
 b) \quad 0.4375 \\
 16 \overline{) 7.0000}
 \end{array}$$

$$c) \quad \frac{5}{9} = \underline{0.\dot{5}}$$

$$\begin{array}{r}
 d) \quad 0.1\dot{6} \\
 6 \overline{) 1.0000}
 \end{array}$$

$$\begin{array}{r}
 e) \quad 0.7\dot{2} \\
 11 \overline{) 8.0000}
 \end{array}$$

$$\begin{array}{r}
 f) \quad 0.9\dot{1}\dot{6} \\
 12 \overline{) 11.0000}
 \end{array}$$

$$8a) \frac{50}{100} = \frac{1}{2}$$

$$b) \frac{56^{14}}{100^{25}} = \frac{14}{25}$$

$$c) \frac{75}{100} = \frac{3}{4}$$

$$d) \frac{33\frac{1}{3}}{100} = \frac{100}{300} \\ = \frac{1}{3}$$

$$9a) 77\% = \underline{0.77}$$

$$b) 7\% = \underline{0.07}$$

$$c) 25\% = \underline{0.25}$$

$$d) 12\frac{1}{2}\% = \underline{0.125}$$

$$10a) 0.05 \times 100\% = \underline{5\%}$$

$$b) 3.56 \times 100\% = \underline{356\%}$$

$$c) \frac{1}{5} \times 100\% = \underline{20\%}$$

$$d) \frac{9}{7} \times 100\% = \frac{900}{7}\% \approx \underline{128\frac{4}{7}\%}$$

$$11a) \frac{40}{360} \times 100\% = \frac{200}{3}\% \approx \underline{66\frac{2}{3}\%}$$

$$b) \frac{18030}{18000} \times 100\% = \underline{30\%}$$

$$c) \frac{1750}{2000} \times 100\% = \frac{175}{2}\% \approx \underline{87\frac{1}{2}\%}$$

$$d) \frac{37}{945} \times 100\% = \frac{740}{9}\% \approx \underline{82\frac{2}{9}\%}$$

$$e) \frac{1.40}{1.25} \times 100\% = \frac{140}{125} \times 100\% \\ = \underline{112\%}$$

$$12a) \frac{126}{25000} \times \frac{3}{500} = \frac{18}{125} \\ = \frac{144}{1000} \\ = \underline{\$0.144}$$

$$b) \frac{70}{100} \times 1 = \frac{7}{10} \text{ kg} \approx \underline{700\text{g}}$$

$$c) \frac{\$5}{125} \times \frac{9}{100} = \frac{45}{10000} \\ = \underline{\$22.50}$$

$$d) \frac{5}{10000} \times 1000000 = \underline{5000}$$

13 a) 5% of amount is 240
1% of amount is 48
100% of amount is 4800

b) 10% of amount is 7.5
100% of amount is 75