

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) $0.3 \times 4$  | (d) $0.06 \times 0.7$ |
| (b) $0.12 \times 7$ | (e) $0.12 \times 0.5$ |
| (c) $9 \times 1.08$ | (f) $0.34 \times 5.7$ |

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) $0.06 \div 0.3$ | (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

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

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

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

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

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

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

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

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

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

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

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

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

$$3a) \begin{array}{r} 146.950 \\ 008.487 + \\ \hline 1092.2664 \\ 248.101 \\ \hline \end{array}$$

$$b) \begin{array}{r} 003.861 \\ 512.990 + \\ \hline 073.2065 \\ 589.916 \\ \hline \end{array}$$

$$c) \begin{array}{r} 6'37.4 \\ ,285.6 \\ \hline 351.8 \end{array}$$

$$d) \begin{array}{r} 4'58.70 \\ ,096.08 \\ \hline 362.62 \end{array}$$

$$e) \begin{array}{r} 843 \cdot 00 \\ 4165 \cdot 72 \\ \hline 377 \cdot 28 \end{array}$$

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

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

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

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

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

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

$$- 3 \times 3$$

$$= 2040 - 9$$

$$= 1938$$

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

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

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

$$c) 0.66 \div 0.3 = 6.6 \div 3 \\ = \underline{2.2}$$

$$d) 9.68 \div 0.5 = 96.8 \div 5 \\ = \underline{19.36}$$

$$e) 7.2702 \div 0.003 = 7270.2 \div 3 \\ = \underline{2423.4}$$

$$f) 18.078 \div 0.0006 = 180780 \div 6 \\ = \underline{30130}$$

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

$$b) \underline{1.69}$$

$$c) \underline{12.01}$$

$$d) \underline{25.40}$$

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

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

$$c) \frac{5}{1} = \underline{0.5}$$

$$d) \begin{array}{r} 0.16 \\ 6 \overline{) 1.0000} \end{array}$$

$$e) \begin{array}{r} 0.72 \\ 11 \overline{) 8.0000} \end{array}$$

$$f) \begin{array}{r} 0.916 \\ 12 \overline{) 11.0000} \end{array}$$

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

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

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

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

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

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

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

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

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

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

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

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

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

$$b) \frac{180^{30}}{1800} \times 100\% = \underline{30\%}$$

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

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

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

$$12a) \frac{126}{2500} \times \frac{3}{500} = \frac{18}{125} \\ = \frac{144}{1000} \\ = \underline{\$0.144}$$

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

$$c) \frac{45}{1000} \times 100 = \frac{45}{10} \\ = \underline{\$22.50}$$

$$d) \frac{5}{1000} \times 10000 = \underline{5000}$$

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