

Calculator practice

Skill 10.1 Simple calculations

1 Round these numbers off to one significant figure:

- (a) 0.812 (b) 6.31 (c) 22.81
 (d) 123.812 (e) 0.751 (f) 3.58
 (g) 83.02 (h) 283.31 (i) 0.212
 (j) 199.01

2 Estimate the result of these calculations by first rounding them to one significant figure:

- (a) 20.09×0.38 (b) 270×5.81 (c) $281 + 19$
 (d) $3194 + 204$ (e) $8.04 \times 5.13 \times 2.04$
 (f) $19.9 \times 1.03 \times 0.89$ (g) $5.82 \times 1.9 + 3.02$

3 Calculate the following, expressing the result to two decimal places:

- (a) $2 \times \sqrt{6}$ (b) 3.014×8.148 (c) 7.04×0.123
 (d) $8 \div 0.123$ (e) 15×2.014 (f) $16 \times \sqrt{2.3}$
 (g) $9.04 + 7$ (h) $\sqrt{14.148}$

Skill 10.2 Simple calculations

Calculate the following:

- 1 $14.02 - 3.09 + 3.871 - 200.39$
 2 $49.02 \times 3 + 6.023 - 3$
 3 $\frac{(14.02 - 18.09)}{6}$ 4 $\frac{(15.02 + 3.9)}{-2}$
 5 $15.02 + \frac{3.09}{2}$ 6 $7.08 \times 0.2 + 6.034$
 7 $\frac{18.023}{2} + 3.09 \times 4$ 8 $6.093 - \frac{2.0134}{2}$
 9 $3.02(15.04 - 6.09) + 8.09$
 10 $\frac{9.023 \times 1.02}{6.8}$

Skill 10.3 Fractions

Calculate the following:

- 1 $2\frac{1}{4} + \frac{7}{8}$ 2 $5\frac{1}{4} - 2\frac{1}{3} + 6\frac{1}{8}$
 3 $4\frac{1}{2} \times 3\frac{1}{8} - 1\frac{1}{2}$ 4 $6\frac{1}{4} \times 2\frac{1}{3} - 8\frac{1}{4}$
 5 $3\frac{1}{9} \times 4 + 8\frac{1}{7}$ 6 $3\frac{1}{4}(2\frac{1}{2} + 1\frac{1}{4})$
 7 $\frac{3\frac{1}{8} + 4\frac{1}{3}}{\frac{2}{3}}$ 8 $\frac{6\frac{1}{4} - 3\frac{1}{8}}{9\frac{2}{3}}$
 9 $\frac{3\frac{1}{4}}{1\frac{1}{2}} + 8\frac{2}{3}$ 10 $\frac{2}{3} \times \frac{1}{4} + \frac{1}{5}$

Simplify:

- 11 $\frac{18}{4}$ 12 $\frac{19}{5}$ 13 $\frac{101}{6}$ 14 $\frac{121}{3}$ 15 $\frac{26}{32}$
 16 $\frac{14}{18}$ 17 $\frac{21}{28}$ 18 $\frac{19}{121}$ 19 $\frac{36}{148}$ 20 $\frac{72}{81}$

Make into improper fractions:

- 21 $2\frac{1}{3}$ 22 $5\frac{1}{8}$ 23 $8\frac{3}{4}$ 24 $19\frac{5}{8}$ 25 $8\frac{2}{3}$
 26 $5\frac{1}{4}$ 27 $11\frac{1}{4}$ 28 $4\frac{2}{5}$ 29 $42\frac{1}{4}$ 30 $19\frac{5}{18}$

Skill 10.4 Directed numbers

Calculate the following

- 1 $-3 - 8 - 12 - 19$ 2 $14 - 13 + 6 - 18$
 3 $-3 + 8 - 81 - 21$ 4 $19 - 21 + 16 - 29$
 5 $2 \times -3 + 3$ 6 $-3 \times -2 - 4 \times 2$
 7 $19 \times -2 + 3 \times -8$ 8 $-4 \times -3 - 8 \times 3$
 9 $17 \times -3 + 3 \times -8$ 10 $13 \times -2 - 8 \times -4$
 11 $\frac{-18}{-3} + 6$ 12 $\frac{-121}{33} - 14 + 2$
 13 $-3(-4 - 8) + 3$ 14 $2(-4 - 8) - 3$

Skill 10.5 Using the memory function

Use the memory keys to work out the following:

- 1 $4 \times -2 + 3 \times 19.02 + 6.09$
 2 $14 \times 2.2 + 3.09 \times 2 + 18.02 \times 3$
 3 $15.02 \times 1.6 + 6.09 \times 3.9 - 3.08 + 4$
 4 $\frac{18.04}{4} + 8.09 + 18.03 \div 1.2$
 5 $\frac{15.09}{2} + \frac{8.04}{2} - 4.02 \times 12$
 6 $15.03 \times 2 + 18.09 \times 3 + 15.02 \times 0.02$
 7 $\frac{6.03 \times 1.8}{0.02} + \frac{3.09 \times 2}{3} - 101$
 8 $5.0938 + 8.03 \times 4 + \frac{15.09}{2}$
 9 $\frac{108 + 3 - 81}{2} + \frac{1083 + 8.03}{3}$
 10 $15(2.09 + 8.06) + \frac{1.04 - 18}{2}$

Skill 10.6 Finding the square and square root

Use the three methods described in the text to evaluate the following, using 3 decimal places where necessary:

- 1 4.08^2 2 5.09^2
 3 18.02^2 4 6.02^2
 5 $(1.09 + 3.2)^2$ 6 $(14 - 18.02)^2$
 7 $(19 + 3.08)^2$ 8 $\left(\frac{4.02}{9}\right)^2$
 9 $\left(\frac{15.09 - 3}{2}\right)^2$ 10 $\frac{(17.04 - 8.3)^2}{2}$

Answers

10 Calculators

Skill 10.1

- 1 (a) 0.8 (b) 6 (c) 20 (d) 100
(e) 0.8 (f) 4 (g) 80 (h) 300
(i) 0.2 (j) 200
- 2 (a) $20 \times 0.4 = 8$ (b) $300 \times 6 = 1800$
(c) $300 \div 20 = 15$ (d) $3000 \div 200 = 15$
(e) $8 \times 5 \times 2 = 80$ (f) $20 \times 1 \times 0.9 = 18$
(g) $6 \times 2 \div 3 = 4$
- 3 (a) 4.90 (b) 24.56 (c) 0.87 (d) 65.04
(e) 30.21 (f) 24.27 (g) 1.29 (h) 3.76

Skill 10.2

- 1 -185.589 2 150.083
3 -0.6783 4 -9.46
5 16.565 6 7.45
7 21.3715 8 5.0863
9 35.119 10 1.35345

Skill 10.3

- 1 $2\frac{4}{7}$ 2 $9\frac{1}{24}$ 3 $12\frac{9}{16}$ 4 $6\frac{1}{3}$
5 $20\frac{37}{63}$ 6 $12\frac{3}{16}$ 7 $11\frac{3}{16}$ 8 $\frac{75}{232}$
9 $10\frac{5}{6}$ 10 $\frac{11}{30}$
11 $4\frac{1}{2}$ 12 $3\frac{4}{5}$ 13 $16\frac{5}{6}$ 14 $40\frac{1}{3}$
15 $\frac{13}{16}$ 16 $\frac{7}{9}$ 17 $\frac{3}{4}$ 18 $\frac{19}{121}$
19 $\frac{9}{37}$ 20 $\frac{8}{9}$
21 $\frac{11}{5}$ 22 $\frac{41}{8}$ 23 $\frac{35}{4}$ 24 $\frac{157}{8}$
25 $\frac{26}{3}$ 26 $\frac{21}{4}$ 27 $\frac{45}{4}$ 28 $\frac{22}{5}$
29 $\frac{169}{4}$ 30 $\frac{347}{18}$

Skill 10.4

- 1 -42 2 -11 3 -97 4 -15
5 -3 6 -2 7 -62 8 -12
9 -75 10 6 11 12 12 -15.6
13 39 14 -27

Skill 10.5

- 1 55.15 2 91.04 3 48.703
4 27.625 5 -36.675 6 84.6304
7 443.76 8 44.7588 9 378.676
10 143.77

Skill 10.6

- 1 16.646 2 25.908 3 324.720
4 36.240 5 18.404 6 16.160
7 487.526 8 0.200 9 36.542
10 38.194 11 1.447 12 3.745
13 2.449 14 2.646 15 8.542
16 2.551 17 4 18 5.196
19 12.343 20 3.772