

Exercise 54

Perform the following calculations and report each answer with the correct number of significant figures.

(a) 62.8×34

(b) $0.147 + 0.0066 + 0.012$

(c) $38 \times 95 \times 1.792$

(d) $15 - 0.15 - 0.6155$

(e) $8.78 \times \left(\frac{0.0500}{0.478}\right)$

(f) $140 + 7.68 + 0.014$

(g) $28.7 - 0.0483$

(h) $\frac{(88.5 - 87.57)}{45.13}$

Solution

(a) $62.8 \times 34 \approx 2.1 \times 10^3$ (rounded to two significant figures)

(b) $0.147 + 0.0066 + 0.012 \approx 0.166$ (rounded to the thousandths place)

(c) $38 \times 95 \times 1.792 \approx 6.5 \times 10^3$ (rounded to two significant figures)

(d) $15 - 0.15 - 0.6155 \approx 14$ (rounded to the ones place)

(e) $8.78 \times \left(\frac{0.0500}{0.478}\right) \approx 0.918$ (rounded to three significant figures)

(f) $140 + 7.68 + 0.014 \approx 148$ (rounded to the ones place)

(g) $28.7 - 0.0483 \approx 28.7$ (rounded to the tenths place)

(h) $\frac{(88.5 - 87.57)}{45.13} \approx \frac{0.9}{45.13} \approx 0.02$ (rounded to the tenths place and then rounded to one significant figure)