Exercise 53

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

   (a) 628×342

   (b) $(5.63 \times 10^2) \times (7.4 \times 10^3)$

   (c) $\frac{28.0}{13.483}$

   (d) 8119×0.000023

   (e) $14.98 + 27,340 + 84.7593$

   (f) $42.7 + 0.259$

Solution

   (a) $628 \times 342 \approx 2.15 \times 10^5$ (rounded to three significant figures)

   (b) $(5.63 \times 10^2) \times (7.4 \times 10^3) \approx 4.2 \times 10^6$ (rounded to two significant figures)

   (c) $\frac{28.0}{13.483} \approx 2.08$ (rounded to three significant figures)

   (d) $8119 \times 0.000023 \approx 0.19$ (rounded to two significant figures)

   (e) $14.98 + 27{,}340 + 84.7593 \approx 27440.$ (rounded to the ones place)

   (f) $42.7 + 0.259 \approx 43.0$ (rounded to the tenths place)