

Exercises

1. Round off 0.070000123456 correct to 4 significant figures.
2. Round-off the following numbers correct to 4- significant figures.
(i) 4.79132, (ii) 23.2975, (iii) 0.000956754, (iv) 0.0082665, (v) 4378.562,
(vi) 2.000469, (vii) 3.35008, (viii) 87.5555, (ix) 4.000559, (x) 0.0000300085
3. Round-off the following numbers correct to 4- significant figures:
(i) 3.96312, (ii) 49.00088, (iii) 0.0000656. (iv) 76.000654, (v) 28.555555,
(vi) 5.00109600, (vii) 538.29059, (viii) 0.0129456, (ix) 1.45008, (x) 8.999999
4. If $f(x) = 5\tan(x) - 9x$, find the percentage error in $f(x)$ for $x = \frac{\pi}{4}$, if the error in x is 0.003.
5. Find the sum of the following approximate numbers, if the numbers are correct to the last digit:
a) 8.37642, 6.876, 2.896555, 0.22359
b) 0.00024356, 19.42, 8.987, 0.35793, 173682, 3.73928
6. a) Find the absolute error (E_A), relative error (E_R) and percentage error (E_P) of the numbers whose true value (V_T) and approximate value (V_A) are given:
i) $V_T = 5.86593$, $V_A = 5.866$;
ii) $V_T = 2.55555$, $V_A = 2.556$;
iii) $V_T = 9.75600$, $V_A = 9.757$
b) Given $E_A = 0.5 \times 10^{-3}$, $E_R = 0.37 \times 10^{-5}$, find V_T .
c) If $V_A = 0.468$, $E_P = 6\%$, find V_A .