

(marks)

27SPH 4C sig X 10^{dig} Quiz

(2) 1. Write the following numbers in standard form (aka Scientific notation):

a) 23,460,000 = 2.346×10^7

b) 0.000,258 = 2.58×10^{-4}

(2) 2. Write the following numbers in expanded form :

a) $1.56 \times 10^3 =$ 1560

b) $3.48 \times 10^{-7} =$ 0.000000348 (6 zeroes)

(2) 3. Express the answer to this expression in standard form (Scientific Notation):

$$\frac{(32\,159 \times 0.00157 + 167)}{62\,157}$$

$$= 0.003499 = 3.5 \times 10^{-3}$$

(8) 4. Write the number of significant digits present in each of the following :

a) 32 = 2

b) 32.0 = 3

c) 0.32 = 2

d) 0.00320 = 3

e) 320 = 2

f) 3200 = 2

g) 320. = 3

h) $3.20 \times 10^3 =$ 3

(4) 5. Round off the following numbers to the number of significant digits indicated in brackets :

a) 32.4498 (to 3 sig dig) = 32.4

b) 49.984 (to 2 sig dig) = 50.

c) 64.5 (to 2 sig dig) = 64

d) 65.5 (to 2 sig dig) = 66

6. Rearrange the following equations to solve for the variable indicated :

(4) a) $a = \frac{(V_2 - V_1)}{t} \Rightarrow [t = ?] \quad (2)$
$$t = \frac{(V_2 - V_1)}{a}$$

b) $V_2 = V_1 + at \Rightarrow [V_1 = ?] \quad (2)$
$$V_1 = V_2 - at$$

(5) c) $E_k = \frac{1}{2}mv^2 \Rightarrow [m = ?] \quad (2)$

$$\frac{E_k}{\frac{1}{2}v^2} = m = \frac{2E_k}{v^2}$$

d) $d = \frac{1}{2}at^2 \Rightarrow [t = ?] \quad (3)$

$$t^2 = \frac{2d}{a} \text{ or } \frac{d}{\frac{1}{2}a}$$

$$t = \sqrt{\frac{2d}{a}} \text{ or } t = \sqrt{\frac{d}{\frac{1}{2}a}}$$