

Significant Digit Quiz**Short Answer**

1. State the number of significant digits in the following measurements.

a. 248 m _____

b. 0.00003 m _____

c. 64.01 m _____

d. 80.001 m _____

e. 3218 kg _____

f. 60.080 kg _____

g. 801 kg _____

h. 500 km _____

i. 40.0 km _____

j. 0.000534 kg _____

k. 5.60×10^8 m _____l. 3.0005×10^{-6} m _____m. 8.0×10^{10} m _____n. 9.204×10^{-3} m _____

2. Add or subtract as indicated and state the answer with the correct number of significant digits.

a. $16.2 \text{ m} + 5.008 \text{ m} + 13.48 \text{ m} =$ _____

b. $5.006 \text{ m} + 12.0077 \text{ m} + 8.0084 \text{ m} =$ _____

c. $78.05 \text{ cm}^2 - 32.046 \text{ cm}^2 =$ _____

d. $15.07 \text{ kg} - 12.0 \text{ kg} =$ _____

e. $85.26 \text{ g} + 4.7 \text{ g} =$ _____

f. $1.07 \text{ km} + 0.608 \text{ km} =$ _____

g. $186.4 \text{ kg} - 57.83 \text{ kg} =$ _____

h. $60.08 \text{ s} - 12.2 \text{ s} =$ _____

Name: _____

ID: A

3. Multiply or divide as indicated using significant digits and units correctly.

a. $(5 \times 10^8 \text{ m}) \times (4.2 \times 10^7 \text{ m}) =$ _____

b. $(1.67 \times 10^{-2} \text{ km}) \times (8.5 \times 10^{-6} \text{ km}) =$ _____

c. $(2.6 \times 10^4 \text{ kg}) / (9.4 \times 10^3 \text{ m}^3) =$ _____

d. $(6.3 \times 10^{-1} \text{ m}) / (3.8 \times 10^2 \text{ s}) =$ _____

e. $(6.2 \times 10^{18} \text{ m}) \times (4.7 \times 10^{-10} \text{ m}) =$ _____

f. $(5.6 \times 10^{-7} \text{ m}) / (2.8 \times 10^{-12} \text{ s}) =$ _____

g. $(8.1 \times 10^{-4} \text{ km}) \times (1.6 \times 10^{-3} \text{ km}) =$ _____

h. $(6.5 \times 10^5 \text{ kg}) / (3.4 \times 10^3 \text{ m}^3) =$ _____

Significant Digit Quiz
Answer Section

23

SHORT ANSWER

1. ANS:

- a. 3 b. 1
 c. 4 d. 5
 e. 4 f. 5
 g. 3 h. 1 (ambiguous)
 i. 3 j. 3
 k. 3 l. 5
 m. 2 n. 4

7

PTS: 7 DIF: K
 KEY: significant digits

OBJ: A2 TOP: skills and methods of science
 MSC: from text book

2. ANS:

- a. ~~34.5~~ m b. 25.022 m
 34.7 m
 c. 46.00 cm² d. 3.1 kg
 e. 90.0 g f. 1.68 km
 g. 128.6 kg h. 47.9 s

8

PTS: 4 DIF: K
 KEY: significant digits, adding and subtracting

OBJ: A2 TOP: skills and methods of physics
 MSC: from text book

3. ANS:

- a. $2 \times 10^{16} \text{ m}^2$
 b. $1.4 \times 10^{-7} \text{ km}^2$
 c. 2.8 kg/m^3
 d. $1.7 \times 10^{-3} \text{ m/s}$
 e. $2.9 \times 10^9 \text{ m}^2$
 f. $2.0 \times 10^5 \text{ m/s}$
 g. $1.3 \times 10^{-6} \text{ km}^2$
 h. $1.9 \times 10^2 \text{ kg/m}^3$

-1 for wrong units

4

PTS: 1 DIF: K
 KEY: significant digits, multiplying and dividing

OBJ: A2 TOP: apply skills and methods of physics
 MSC: from text book