

1. State the number of significant digits in each measurement. (1/2 pt each)

2804 m = _____

2.84 m = _____

0.0029 m = _____

0.00308 m = _____

4.6×10^5 = _____

1010.0 m = _____

75 m^2 = _____

75.00 m^2 = _____

$4.06 \times 10^5 \text{ m}$ = _____

248 m = _____

64.01 m = _____

0.00003 m = _____

1.87×10^6 = _____

80.001 m = _____

2.00201 cm = _____

2. Add or subtract the following as indicated. Express in correct significant digits (figures). (1/2 pt ea)

a. $16.2 \text{ m} + 5.08 \text{ m} + 13,48 \text{ m}$ = _____

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

c. $6.210 \text{ cm} + 7.4 \text{ cm} + 0.68 \text{ cm} + 12.0 \text{ cm}$ = _____

d. $28.662 \text{ m} + 32.34 \text{ m} + 17.5 \text{ m}$ = _____

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

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

g. $10.8 \text{ g} - 8.264 \text{ g}$ = _____

h. $44.12 \text{ ml} - 26.82 \text{ ml}$ = _____

3. Multiply the following. Express in correct significant digits (figures). (1/2 pt each)

a. $1.42 \text{ cm} \times 1.2 \text{ cm}$ = _____

b. $6.8 \text{ m} \times 3.145 \text{ m}$ = _____

c. $74.0 \text{ cm} \times 2.54 \text{ cm}$ = _____

d. $8.002 \text{ cm} \times 1.50 \text{ cm}^2$ = _____

e. $(2.0 \times 10^8) \times (1.6 \times 10^7)$ = _____

f. $0.00050 \text{ m/s} \times 0.0030 \text{ s}$ = _____

4. Divide the following. Express in correct significant digits (figures). (1/2 pt. each)

a. $20.2 \text{ cm} / 7.41 \text{ cm}$ = _____

b. $3.1416 \text{ cm} / 12.4 \text{ cm}$ = _____

c. $64.39 \text{ m} / 13.6 \text{ m}$ = _____

5. A rectangular floor has a length of 15.72 m and a width of 4.40 m. Calculate the area of the floor to the best possible value using these measurements. Express in correct significant digits. (1 pt)

6. The length of a room is 16.40 m, its width is 4.5 m, and its height is 3.26 m. What volume of air does the room contain? Express in correct significant digits. Show your work! (1 pt)

7. Gold has a density of 19.3 g/cm^3 . A cube of gold measures 4.23 cm on each edge.

Density = Mass/ Volume

a. What is the volume of the cube? (express in correct significant digits)(1 pt)

b. What is its mass in grams? (express in correct significant digits). (1 pt)