

Reflection and Self-Assessment

Part 1: Circle the statement that best describes how you completed the practice:

- I answered all questions without using the online solutions. I checked my answers against the key at the back of the practice and was able to determine my mistakes and correct them without referring to the online solutions.
- I answered most questions correctly without using the online solutions. I used the online solutions to help me with some questions and was able, with help from the online solutions, to understand every question and answer them correctly.
- I used the online solutions to help me with most of the questions. I was able, with help from the online solutions, to understand each question and answer them correctly.
- Even using the online solutions, I was not able to fully understand the solution to some problems. The questions I had trouble with were:

- I did not attempt all the questions on the practice.

Part 2: Circle the statement that best describes your confidence in answering questions of this type in the future.

- I am confident I can answer nearly any question of this type correctly without using notes or other assistance.
- I am confident I can answer **MOST** questions of this type correctly without using notes or other assistance.
- I am **NOT** confident I can answer most questions of this type correctly without using notes or other assistance.

Significant Figures Practice

Name: _____

1. How many significant figures are there in each of the following measurements?

a. 5.62 m

b. 0.056 m

c. 1500 cm

d. 2.52×10^4 mL

e. 1050 seconds

f. 4.50 grams

g. 52.00 cm

h. 0.00450 nm

i. 5.600 m

j. 0.005 m

k. 100 cm

l. 0.52×10^4 mL

m. 1052 seconds

n. 4.500 grams

o. 502.00 cm

Significant Figures Practice

Name: _____

2. Round each of the following to the indicated number of significant figures, note for some you may need to use scientific notation.

Measurement	Rounded to 1 sig fig	Rounded to 2 sig figs	Rounded to 3 sig figs
a. 57 290 cm			
b. 49 935 m			
c. 0.2565 cm			
d. 0.09725 m			
e. 1.5524 kg			
f. 19.95 m			
g. 4505 grams			

Significant Figures Practice

Name: _____

3. Write the range of possible values for each of the following using the convention that a measurement is plus or minus the last significant figure. The first is done as an example:

a. 260 m

260m plus or minus 10m

250m-270m

b. 93 grams

c. 0.024 mL

d. 4300 mL

e. 5625.3 grams

f. 260.0 m

Significant Figures Practice

Name: _____

4. Add or subtract with attention to sig figs.

a. $6.25 + 2$

b. $200 + 58$

c. $65 + 27.3$

d. $2.52 \times 10^7 - 7.21 \times 10^6$

5. Multiply or divide with attention to sig figs.

a. 56.3×0.03

b. $(3.5 \times 10^8)(1.22 \times 10^{-3})$

c. $\frac{50}{9.23}$

d. $0.0023 \div 2.02$

Significant Figures Practice

Name: _____

6. Complete each calculation with attention to sig figs

a. $(4.31 + 4.56) \times (0.14)$

b. $\frac{453 - 250}{100.0}$

c. $(32 + 4523) \times (76 - 25)$

d. $\frac{5.62 \times 10^{19}}{500}$

e. $\frac{0.00599}{5.6 \times 10^{21}}$

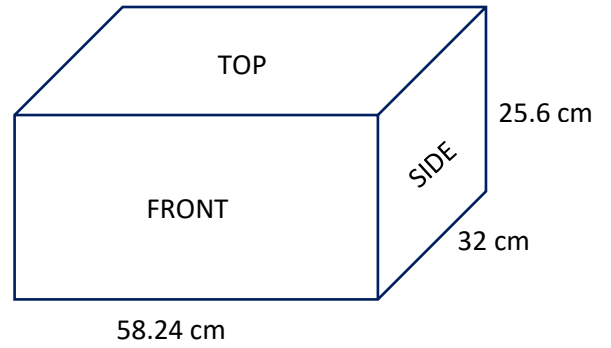
f. $\frac{0.0921 \times 5666}{(622 - 414)}$

Significant Figures Practice

Name: _____

7. As student measures the dimensions of a box as shown

a. Determine the volume of the box.



b. Determine the perimeter of the side.

c. Determine the area of the front of the box.

d. Determine the area of the top of the box.

e. How many times greater is the area of the top compared to the area of the front?

Significant Figures Practice

Name: _____

8. The formula for the volume of a sphere is $V = \frac{4}{3}\pi r^3$. Determine the volume of a sphere with radius of 4.56 cm.
9. The formula for the surface area of a cube is $SA = 6s^2$. Where s is the side length. What is the surface area of a cube with side lengths of 0.0030 mm?
10. There are 3 beakers which each contain, 35.6 mL, 37.3 mL and 35.2 mL of a solution respectively. What is the average volume of solution in each beaker?

Significant Figures Practice

Name: _____

Answer Key

1a) 3	1b) 2	1c) 2	1d)3	1e)3
1f) 3	1g) 4	1h) 3	1i) 4	1j) 1
1k) 1	1l) 2	1m) 4	1n) 4	1o) 5
2a) 60 000 cm 57 000 cm 57 300 cm	2b) 50 000 m 5.0×10^4 m 49 900 m	2c) 0.3 cm 0.26 cm 0.257 cm	2d) 0.1 m 0.097 m 0.0973 m	2e) 2 kg 1.6 kg 1.55 kg
2f) 20 m 2.0×10^1 m 20.0 m	2g) 5000 g 4500 g 4510 g	3b) 92 ± 1 g 92 g – 94 g	3c) 0.024 ± 0.001 mL 0.023 mL – 0.025mL	3d) 4300 mL \pm 100mL 4200 mL – 4400 mL
3e) 5625.3 ± 0.1 g 5625.2g – 5625.4 g	3f) 260 m \pm 0.1 m 259.9 m – 260.1 m	4a) 8	4b)300	4c)92
4d) 1.80×10^7	5a) 2	5b) 430 000 OR 4.3×10^5	5c) 5	5d) 0.0011 OR 1.1×10^{-3}
6a) 1.2	6b) 2.0	6c) 230 000 OR 2.3×10^5	6d) 1×10^{17}	6e) 1.1×10^{-24}
6f) 2.51	7a) 48 000 cm ³ OR 4.8×10^4 cm ³	7b) 120 cm	7c) 1490 cm ² OR 1.49×10^3 cm ²	7d) 1900 cm ² OR 1.9×10^3 cm ²
7e) 1.3 times greater	8) 397 cm ³	9) 5.4×10^{-5} mm ²	10) 36.0 mL	