Problem Set 1-2 Significant Digits

1. Zeros between non-zero digits are always significant. 1.03 has 3 sig. dig.
2. Zeros at the beginning of a number are never significant. .0026 has 2 sig.. dig.
3. Zeros at the end of a number are significant if the number contains a decimal point. 3.0 cm = 2 sig dig

1. Indicate the correct number of significant digits in each of the following numbers.

____a. 3.456 g. ____d. 102.53070 g.

____b. .03406 g. ____e. 2.05 m

____c. 1.20 cm ____f. 11.07 ml

2. addition and subtraction. The least number of decimal digits determines the number in the answer.

```
    20.42
+    1.322
    83.1
_____________
   104.842
```

the answer must be rounded off to 104.8 because 83.1 has only one decimal digit.

Add the following: a. 11.76 + 14.2+ 1.786 = _____
b. .0032 + 1.46 + 11.789=_____

Subtract a. 12.76- 1.4=_____ b. 5.67-.0032=_____

c.. 25.656-2.25-_____ d. 1.257-.0021=_____

3. In multiplication and division the least number of significant digits in the problem determine the number in the answer.

6.221cm x 5.2 cm= 32.3492 cm^2 we must round off to 32 because 5.2 has only 2 sig. dig.

a. 45.78 x 1.82= _____ b. .0032 x 1.005=_____ c. 8.456 x .0020=_____

d. 16.25 x 28.3590=_____ e. 24.780/1.34=_____ f. 1.23/.25.456=_____

g. 11.76/2.005=_____ f. 34.13 x .0026=_____ g. 1.25 x 1.0025

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1. Indicate the correct number of significant digits in each of the following numbers.

4 a. 3.456 g.

4 b. .03406 g.

3 c. 1.20 cm

8 d. 102.53070 g.

3 e. 2.05 m

4 f. 11.07 ml

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2. addition and subtraction. The least number of decimal digits determines the number in the answer.

```
    20.42
+    1.322
    83.1
-----------
   104.842
```

the answer must be rounded off to 104.8 because 83.1 has only one decimal digit.

Add the following: a. 11.76 + 14.2+ 1.786 = 27.7

b. .0032 + 1.46 + 11.789= 13.25

Subtract a. 12.76- 1.4= 11.4 b. 5.67-.0032= 5.67

c.. 25.656-2.25- 23.41 d. 1.257-.0021= 1.255

3. In multiplication and division the least number of significant digits in the problem determine the number in the answer.

6.221cm x 5.2 cm= 32.3492 cm^2 we must round off to 32 because 5.2 has only 2 sig. dig.

a. 45.78 x 1.82= 83.3

b. .0032 x 1.005= .0032

c. 8.456 x .0020= .017

d. 16.25 x 28.3590= 460.8

e. 24.780/1.34= 18.5

f. 1.23/25.456= .0483

g. 11.76/2.005= 5.865

f. 34.13 x .0026= .089

g. 1.25 x 1.0025 = 1.25