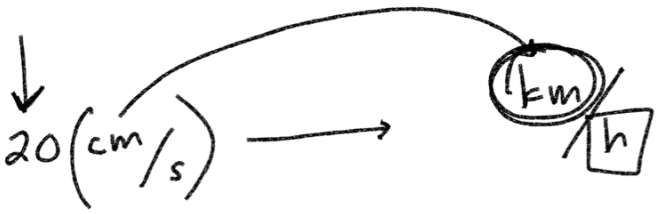
W-PS Physical Science

Metric System



$$20\ \frac{cm}{s} * \frac{1\ m}{100\ cm} * \frac{1\ km}{1000\ m} * \frac{60\ s}{1\ min} * \frac{60\ min}{1\ h}$$

$$0.72\ km/h$$

$1\ m = 100\ cm$

$\_\_\_\ m = 1\ km$

$kilo \rightarrow 10^3 = 1000$

Significant Digits $0.7\ km/h$

Accuracy of measurement

$2\ \frac{km}{hr} = \frac{mm}{s}$

km → mm hr → s

$$2\ \frac{km}{hr} * \frac{1000\ m}{1\ km} * \frac{1000\ mm}{1\ m} * \frac{1\ hr}{60\ min} * \frac{1\ min}{60\ s}$$

3600

$milli \rightarrow \frac{1}{1000}$

$555.5\overline{5}\ mm/s$

$600\ mm/s$

$42\ m^{③} \longrightarrow cm^3$

$42\ \cancel{m}^{③} * \frac{100\,cm}{1\,\cancel{m}} * \frac{100\,cm}{1\,\cancel{m}} * \frac{100\,cm}{1\,\cancel{m}}$

$\underline{m} \longrightarrow \underline{cm}$ $(2)3 = 6$

$42{,}000{,}000\ cm^3$

$42.000000.$

$18\ mm^{②} \longrightarrow cm^2$

big lil' → lil big

$2(1) = 2$

k
h
da
base
d
c
m

[1]

$.18.$

$0.18\ cm^2$

$86{,}000{,}000{,}000\ m^3$

1.) $86\ km^{[3]} = \_\_\_\_\ m^3$

lil' big = big lil'

$(3)(3) = 9$

86.000000000

$0.000000032\ m^3$

2.) $32\ mm^{[3]} = \_\_\_\_\ m^3$

big lil' = lil' big

$(3)(3) = 9$

$.000000032.$

3.) $8\ cm^2 = \_\_\_\_\ mm^2$

lil big = big lil

$2(1) = 2$

8.00

$800\ mm^2$

4.) $12\ cm^{[3]} = \_\_\_\_\ m^{[3]}$

big lil' = lil' big

$3(2) = 6$

$.000012.$

$0.000012\ m^3$

Significant Digits

	significant digits
30000	1
876	3
902	3
1088	4
0.000083	2
8300000	2
0.00901	3
7080000	3
0.0009000 7	5
$2.13 * 10^{8}$	3
$1.00 * 10^{9}$	3
3 apples	∞

$8.3 * 10^{6}$

13.05 cm   309.2 cm   3.785 cm

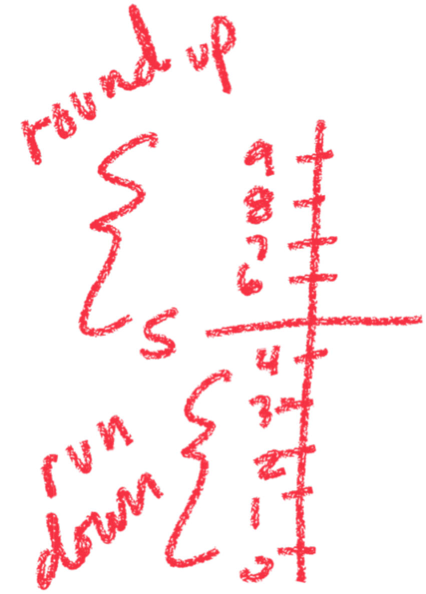
yes, you can use a calculator

Significant Digits

4 significant digits

13.05	
309.2	
3.785	
326.035	round

326.0



3 significant digits

$$\begin{array}{r} 6.98\text{ cm} \\ *\ 0.23\text{ cm} \\ \hline 1.6054 \end{array}$$

2

1.6

$$\begin{array}{r} 7.00000 \\ \times\ 6 \\ \hline 42 \end{array}$$

6 ← 1

40

$$\begin{array}{r} 6.857 \\ \times\ 3.0 \\ \hline \end{array}$$

4, 2

answer 2 sig digs

Quiz 2 due today! HW
Quiz due Oct 7th online HW 4 (Fri)
Quiz 4 (Fri)
due Oct 14th