

Math 10 Chp 1 Reference/Review

Note Title

2016-09-29

SI Conversion for metres			
1 metre (m)		1 metre (m)	
10	decimetres (dm)	0.1	decametres (dam)
100	centimetres (cm)	0.01	hectometres (hm)
1000	millimetres (mm)	0.001	kilometres (km)
10^6	micrometres (μm)	10^{-6}	megametres (Mm)
10^9	nanometres (nm)	10^{-9}	gigametres (Gm)
10^{12}	picometres (pm)	10^{-12}	terametres (T)
10^{15}	femtometres (fm)	10^{-15}	petametres (Pm)
10^{18}	attometres (am)	10^{-18}	exametres (Em)
10^{21}	zeptometres (zm)	10^{-21}	zettametres (Zm)
10^{24}	yoctometres (ym)	10^{-24}	yottametres (Ym)

Imperial Conversion	
12000	thous (th)
12	inches (in)
1	foot (ft)
1/3	yards (yd)
1/66	chains (ch)
1/660	furlongs (fur)
1/5280	miles (mi)
1/15840	leagues (lea)

SI-Imperial Conversion	
1 in	2.54 cm
1 ft	.3048 m
1 yd	.9144 m
1 mi	1.6093 km
1 mm	.0394 in
1 cm	.3937 in
1 m	1.0936 yd
1 km	.6214 mi

Review: Area of rectangle = lw
 Square = l^2
 circle = πr^2
 Triangle = $\frac{1}{2}bh$

Perimeter = $2(l+w)$
 $= 4l$
 $= 2\pi r$
 not consistent.

Volume of rectangular prism = lwh
 cube = l^3
 cylinder = $\pi r^2 h$

Area = $2(lv+wh+lh)$
 $= 6l^2$
 $= 2\pi r^2 + 2\pi r h$

Speed/Velocity = $\frac{\text{distance}}{\text{time}} = \frac{d}{t}$

Ratios - we can have enlargement or reduction ratios. It is always written **new : original**. When using the ratio, we want to write it as a fraction $\frac{\text{new}}{\text{original}}$. Enlargement always has a larger value on the left. Reduction always has a larger value on the right. We usually need to determine the original measurement; we do this by multiplying by the reciprocal of the ratio. Copy examples from your notes if you need to.

Converting Units - it doesn't matter if you are converting within or between systems; use dimensional analysis to prevent errors. Use tables that have **conversions (such as the previous page)** rather than measurements (such as your text) because you can simply write the conversions as fractions. Copy examples from your notes if needed.

References - usually body parts because you always have them with you, unlike a ruler or metre stick. **Choose the appropriate size (even for SI/Imperial) so that you can measure with whole numbers rather than decimals.**

Calipers - count the number of divisions for 1 inch or cm; use this to measure the Main Scale. Count the number of divisions for the Vernier Scale: $\frac{1}{\text{Main}} \div \text{Verner}$ is the size of 1 Vernier measure. Multiply this by the Vernier measure. Then add it to the Main measure for your full reading.