

Ch. 1 Worksheet

- For each of the following write out the name of each unit. For example, nm = nanometers and ks is kiloseconds.
 - cm
 - Mg
 - μm
 - ms
- Convert each of the following to scientific notation.
 - 0.002320
 - 103000
 - 0.010000
- Convert each of the following to standard notation.
 - 1.20×10^3
 - 1.20×10^{-3}
 - 2.05×10^7
 - 2.05×10^{-7}
- Round each number to 4 significant figures.
 - 2.22287
 - 0.00021567
 - 10,800,000
 - 2140.1
- Convert 35.0 g to lbs.
- Convert 1.4×10^{-5} hrs into s.
- Circle all of the SI units from the list below:
km hrs min s cm μs m kg g ks lbs slugs
- A heavy piece of machinery is raised by sliding it a distance of 12.5 m along a plank oriented at an angle of $\theta = 20.0^\circ$ to the horizontal. How far has it moved horizontally and vertically?

9. Vectors **F** and **G** are defined as follows:

$$\mathbf{F} = 6.0 \text{ m at } \theta = 60^\circ$$

$$\mathbf{G} = 5.25 \text{ m at } \theta = 124^\circ$$

- a. Find $\mathbf{F} + \mathbf{G}$.
- b. Find $\mathbf{F} - \mathbf{G}$.
- c. Find $\mathbf{G} - \mathbf{F}$.

10. Two beetles run across flat sand, starting at the same point. Beetle 1 runs 0.50 m due east, then 0.80 m at 30° north of due east. Beetle 2 also makes two runs; the first run is 1.6 m at 40° east of due north. What must be the magnitude and direction of its second run if it is to end up at the same location as beetle 1?