

# Reteach Conversions Solutions

Pre-Engineering Physics I  
Chapter 1 Reteaching

Perform the following conversion. Utilize the factor-label method and show all work.

1. 54 m to km  $\frac{54 \cancel{\text{m}}}{1000 \cancel{\text{m}}} \times \frac{1 \text{ km}}{1} = 0.054 \text{ km}$

2. 8.7 cm to m  $0.087 \text{ m}$

3.  $3.5 \times 10^5$  mm to km  $0.35 \text{ km}$

4. 103 mi to km  $165.7 \text{ km}$

5.  $2,356 \text{ km} \times \frac{1000 \text{ m}}{1 \text{ km}} \times \frac{3.281 \text{ ft}}{1 \text{ m}} = 7730636 \text{ ft}$  10

6.  $54 \text{ in}^3 \times \frac{2.54 \text{ cm}^3}{1 \text{ in}^3} = 885 \text{ cm}^3$

7.  $12 \text{ mm}^2 \times \frac{1 \text{ m}^2}{1000^2 \text{ mm}^2} = 1.2 \times 10^{-5} \text{ m}^2$

8.  $46 \text{ ft}^2 \times \frac{60 \text{ s}}{1 \text{ min}} \times \frac{1 \text{ m}^2}{3.281^2 \text{ ft}^2} = 256.4 \frac{\text{m}^2}{\text{min}}$

9.  $800 \text{ m/s}^2$  to  $\text{ft/min}^2$

$$\frac{800 \text{ m}}{\text{s}^2} \times \frac{3.281 \text{ ft}}{1 \text{ m}} \times \frac{60^2 \text{ s}^2}{1^2 \text{ min}^2} = 9449280 \frac{\text{ft}}{\text{min}^2}$$



