

1. Convert 2250 millimeters to meters.

2. Convert a length of 24 feet to meters.

3. Convert a distance of 5 km into miles.

4. Convert  $4.45 \times 10^6$  square millimeters to square meters.

5. Convert a volume of 14 liters to cubic meters.

6. Convert a volume of 75 gallons to cubic feet.

7. A car is moving at 88 mph. What is its speed when expressed in ft/s?

8. The fastest train in Italy is the Frecciarossa having a top speed of 360 km/h.

a) Express this speed in meters per second.

b) Express this speed in mph.



9. A car travelling at 60 mph has a kinetic energy of 190,000 ft-lbs.  
Compute the weight of the car in pounds.

10. What is the weight of a gallon of water if it has a mass of 0.26 slug?

11. An Olympic weight plate has a mass of 20 kg. What is its weight in pounds?

12. Using a bathroom scale a man measures his weight to be 172 lb (pounds-force).
- a) What is his mass in lbm (pounds-mass)?
  - b) What is his mass in slugs?
  - c) What is his mass in kg?
  - d) What is his weight in N?

13. The service manual for your car specifies that lug nuts should be tightened to a torque of 100 ft-lbs. What is this torque in units of N-m?

14. A lockring for a bicycle cassette should be tightened to a torque of 40 N-m. What is this torque in units of in-lbs?