

Physics 151 Class Exercise: Working with Units

1) An old tradition in Physics classes is to take unit conversion to a ludicrous extreme by working with the units the furlong and the fortnight. They are defined as:

$$1 \text{ furlong} = 1/8 \text{ mile}$$

$$1 \text{ fortnight} = 14 \text{ days}$$

Express each of the following quantities in terms of these units using scientific notation.

a) The height of the Eiffel Tower 301 m

b) The world record for running the mile 3.74 minutes

c) The speed limit 55 mi/hr

d) The acceleration of gravity 9.81 m/s^2

2. Calculate the volume of a geometrical shape that has a surface area of 3.76 m^2 if the shape is ...

a) a sphere

b) a cube

3. How long is a microcentury?