



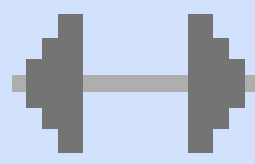
Imperial Units

Before the metric system, we used **imperial units of measurement**. Some of these are still often used today to measure length, mass and volume.



length

Length and distance is measured in **inches** (in), **feet** (ft), **yards** (yd) and **miles** (mi).



mass



volume

Mass is measured in **ounces** (oz), **pounds** (lb) and **stone** (kg).

Volume is measured in **pints** (pt) and **gallons** (gal).

You will need to know how to **convert** between each of the imperial units. The main conversions that you need to **remember** are:

Length and distance

1 foot = 12 inches
1 yard = 3 feet

Mass

1 pound = 16 ounces
1 stone = 14 pounds

Volume

1 gallon = 8 pints



Method

Let's look at how to convert between **imperial units**!

1

Identify the **conversion factor** between the units. This is how much 1 of the larger unit is **equal to** in the smaller unit.

Let's say we want to convert **feet into inches, or inches to feet**. We already know that **1** of the larger unit (feet) is equal to **12** of smaller unit (inches).

1 foot = 12 inches

Our conversion factor is **12**.

2

Multiply or **divide** by the conversion factor.

To convert from a larger unit to a smaller unit, **multiply the larger unit by the conversion factor**.

3 feet in inches: $3 \times 12 = 36$ inches

To convert from a smaller unit to a larger unit, **divide the smaller unit by the conversion factor**.

36 inches in feet: $36 \div 12 = 3$ feet



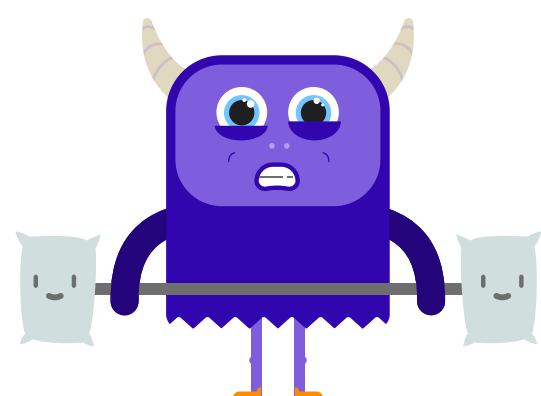
Remember!

Always check the units when comparing values to avoid mistakes!



Example Question

Ato lifts a barbell weighing 4 pounds (lb).



How much does the barbell weigh in ounces (oz)?

A 40 oz

B 48 oz

C 56 oz

D 64 oz

E 80 oz

1

Identify the **conversion factor** between ounces and pounds.

1 pound is equal to 16 ounces so our conversion factor is **16**.

2

Because we are converting a larger unit into a smaller unit, we need to **multiply by the conversion factor**, rather than divide.

Multiply 4 pounds by 16 (the conversion factor) to get the equivalent number of ounces.

| | | | | |
|--|---|---|---|--|
| | | 1 | 6 | |
| | X | 2 | 4 | |
| | | 6 | 4 | |



The correct answer is **D**. The barbell weighs **64 ounces**!