

Measurements and Conversion Factors

There are many kinds of measurements in the world. One that we are familiar with is the dozen (= 12)

You can have a dozen anything... eggs, donuts, buns, etc.

How many eggs are in 8 dozen eggs?

$$\# \text{ of eggs} = 8 \text{ dozen} \times \frac{12 \text{ eggs}}{1 \text{ dozen}} = \underline{96} \text{ eggs}$$

How many donuts are there in 6 dozen?

$$\# \text{ of donuts} = 6 \text{ dozen} \times \frac{12 \text{ eggs}}{1 \text{ dozen}} = 72 \text{ eggs.}$$

How many dozens of timbits are in a box of 40 timbits?

$$\# \text{ of } \overset{\text{dozens of}}{\text{timbits}} = 40 \text{ timbits} \times \frac{1 \text{ dozen}}{12 \text{ timbits}} = 3.3 \text{ dozens}$$

Another measurement is called a ream. 1 ream = 500 sheets of paper.

List the possible conversion factors from the equation above:

$$\# \text{ of sheets} = x \text{ reams} \times \frac{500 \text{ sheets}}{1 \text{ ream}}, \# \text{ of reams} = \frac{x \text{ sheets} \times 1 \text{ ream}}{500 \text{ sheets}}$$

Multiply the key values below by the correct conversion factor so that the given units cancel, and the required units remain.

How many sheets of paper are in 5 reams?

$$\# \text{ of sheets of paper} = 5 \text{ reams} \times \frac{500 \text{ sheets}}{1 \text{ ream}} = 2500 \text{ sheets}$$

How many reams are in 3 250 sheets of paper?

$$\# \text{ of reams} = 3250 \text{ sheets} \times \frac{1 \text{ ream}}{500 \text{ sheets}} = 6.5 \text{ reams.}$$