Proportion
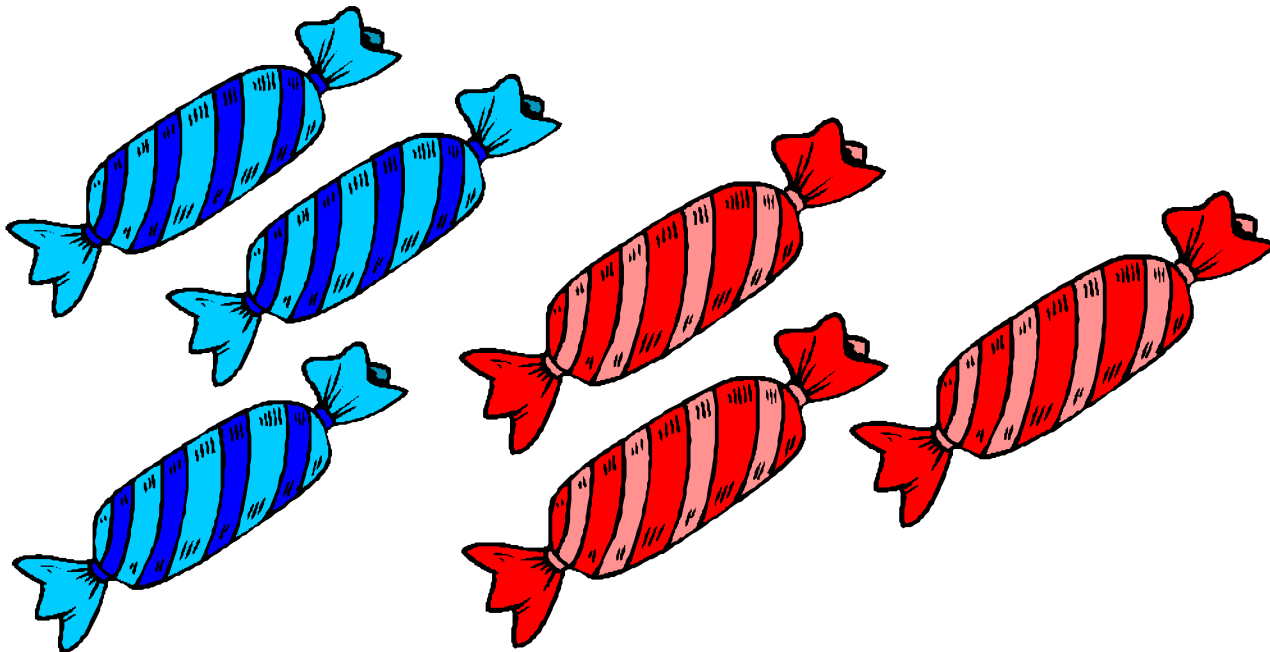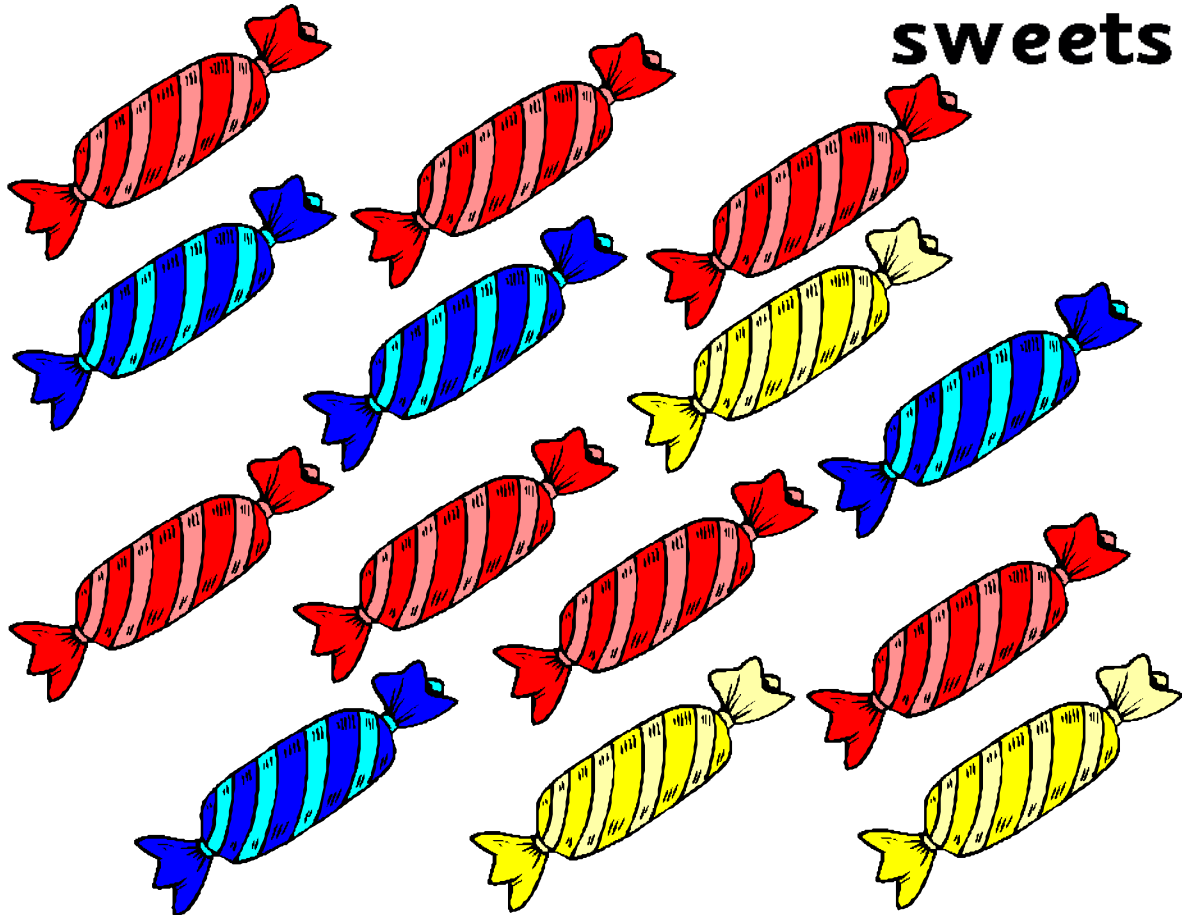
Proportion is a way of comparing quantities.

3 out of 6 sweets were blue.

Sweet Proportions

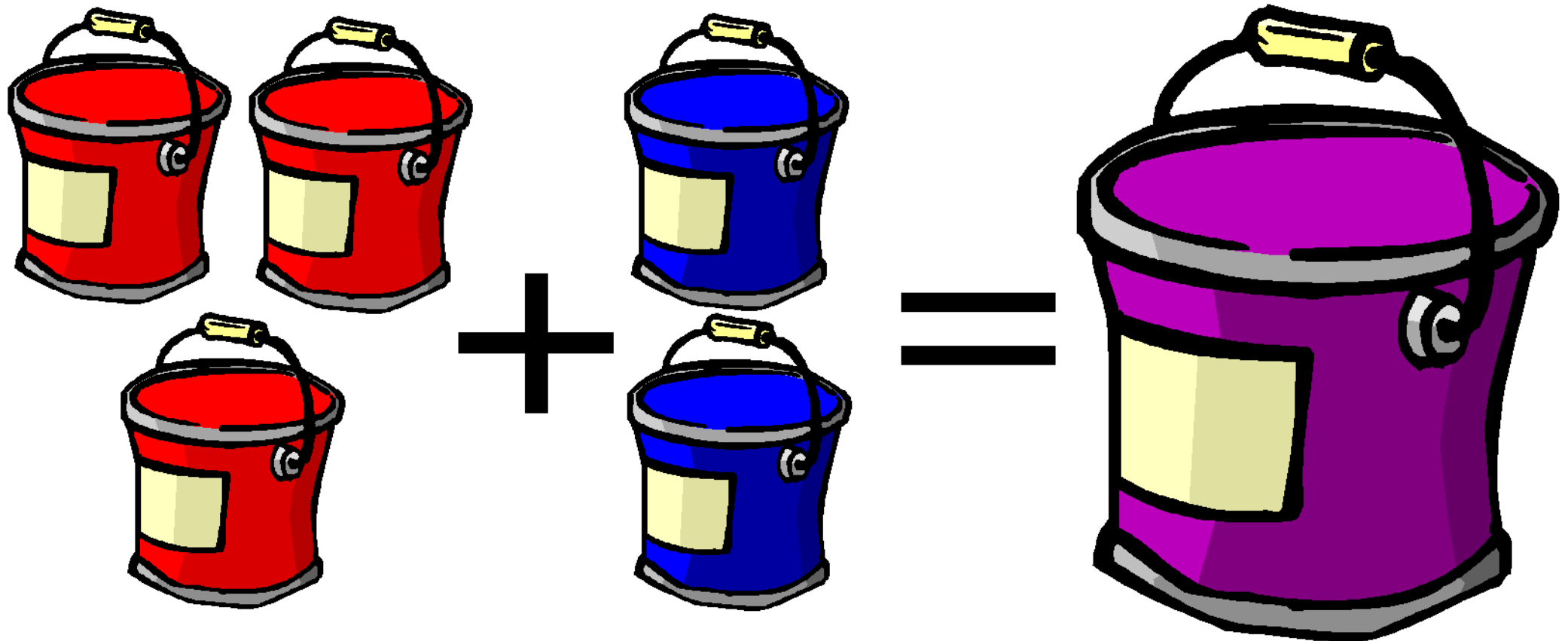Proportion tells us how many of one kind of sweet there are, out of the total number of sweets.

4 out of **14** sweets are blue.

3 out of **14** sweets are yellow.
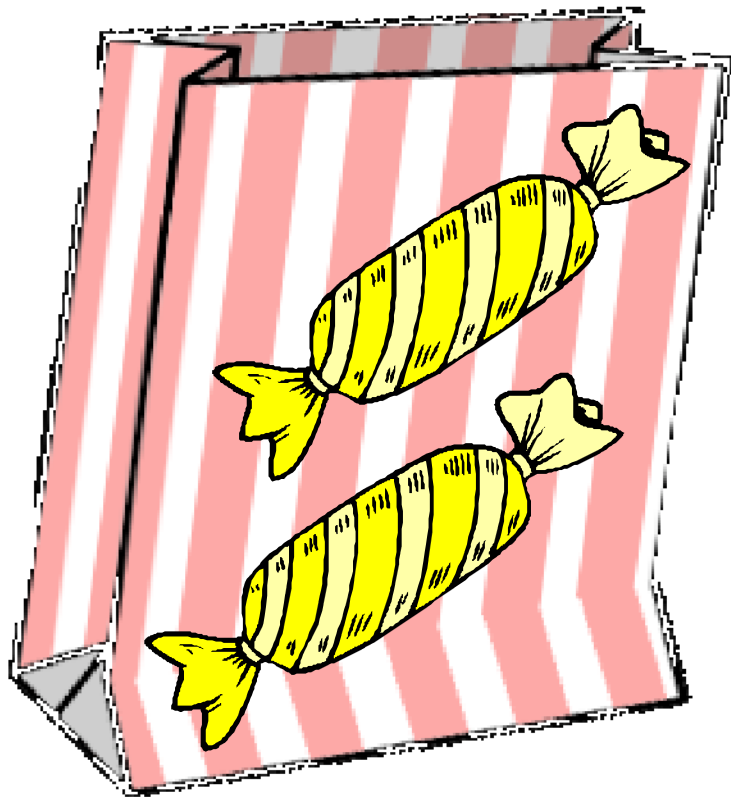
7 out of **14** sweets are red.

Paint Proportions

Purple paint contains **3 red** and **2 blue** paint.
The proportion of red paint is **3** out of **5**.

Sweet Proportions

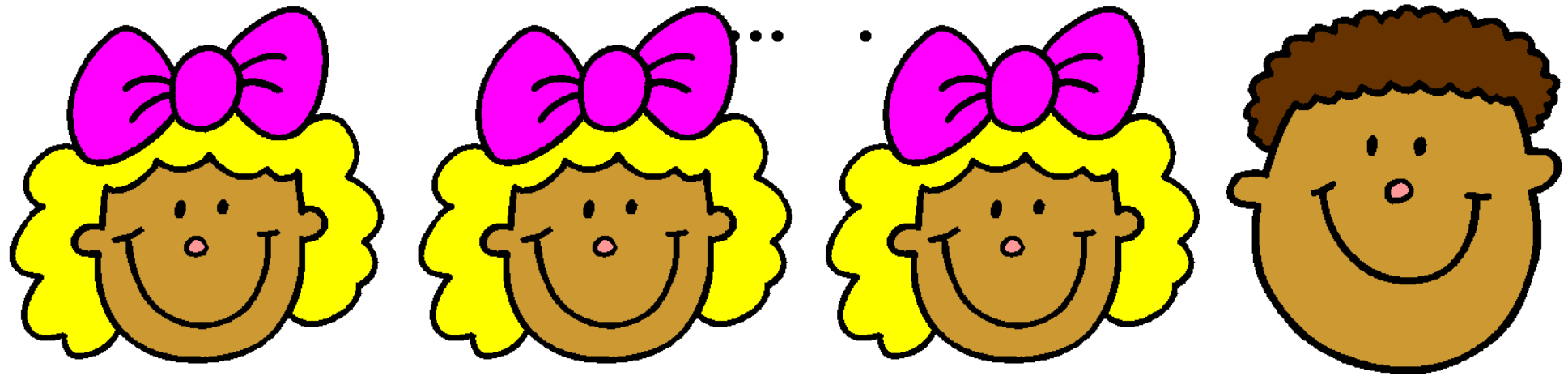A bag contains yellow and green sweets. The proportion of yellow sweets is 2 out of 6. How many green sweets are there?

= ?

Writing Proportions

Proportions can be expressed in several ways: fraction, decimal, percent, or written as ... out of ... .
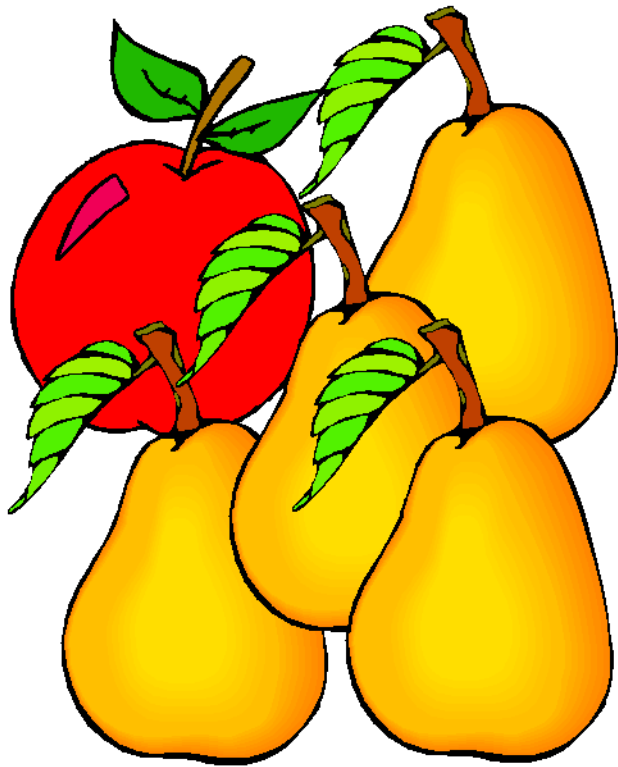
In a group there are **3 girls** out of 4 children. The proportion of girls can be written as:
3 out of 4

$\frac{3}{4}$, or **0.75** (3 divided by 4) or **75%** are girls.

Writing Proportions

If you write a **PROPORTION**, you use the **NUMBER OF ONE TYPE OF ITEM**, and the **TOTAL NUMBER**.
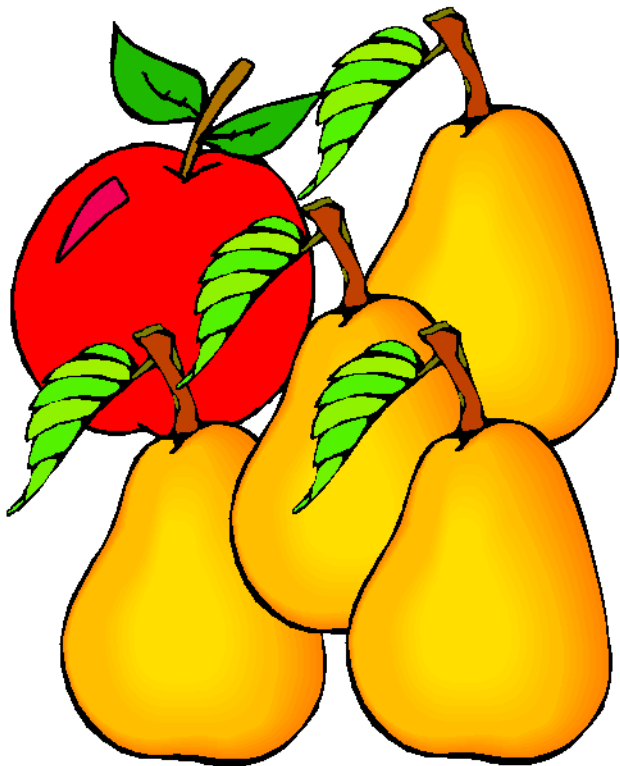
The proportion of apples is 1 out of 5.

Therefore, for every apple there are 4 pears.

How many pears would you have if you had 3 apples?

Writing Proportions

If you write a **FRACTION**, the **NUMERATOR** is the **QUANTITY YOU ARE INTERESTED IN**, and the **DENOMINATOR** is the **TOTAL NUMBER OF ITEMS**. This fraction can then be changed to a decimal or a percent.

1/5 of the fruit are **apples**

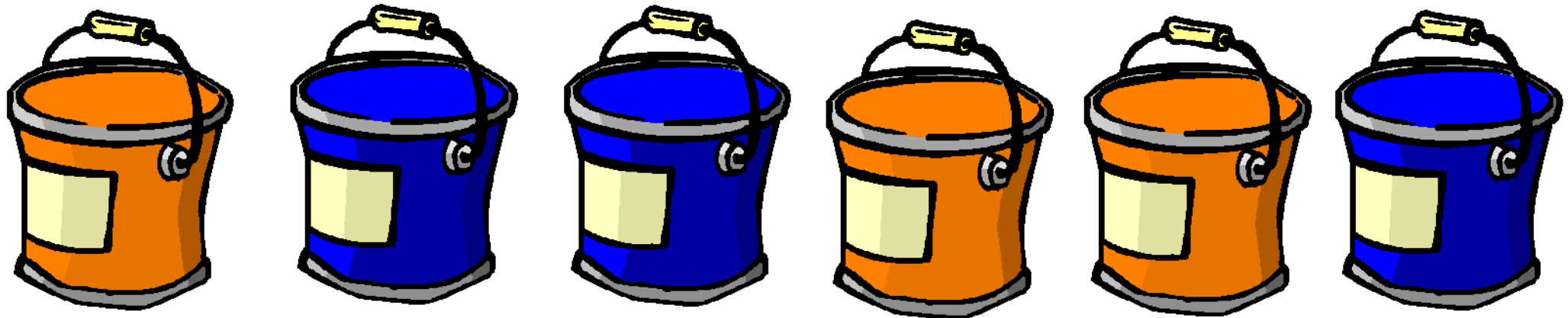**4/5** are **pears**

0.2 are **apples** (1 divided by 5)

0.8 are **pears** (4 divided by 5)

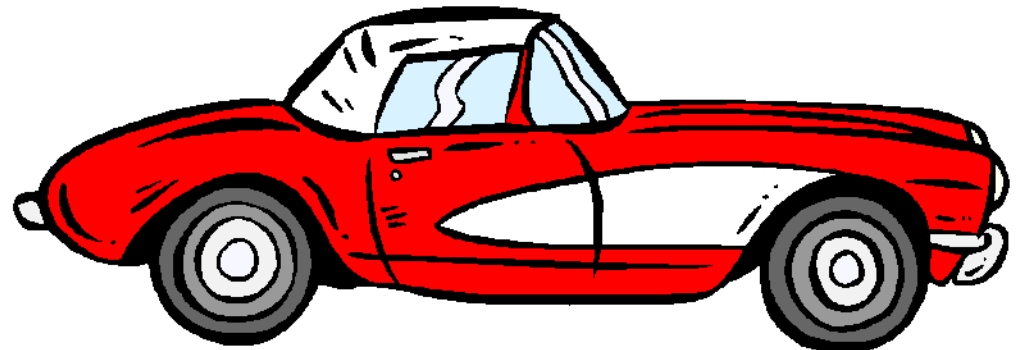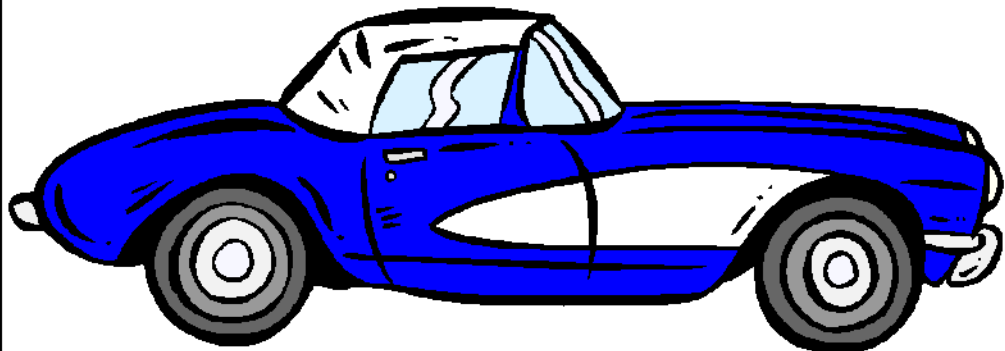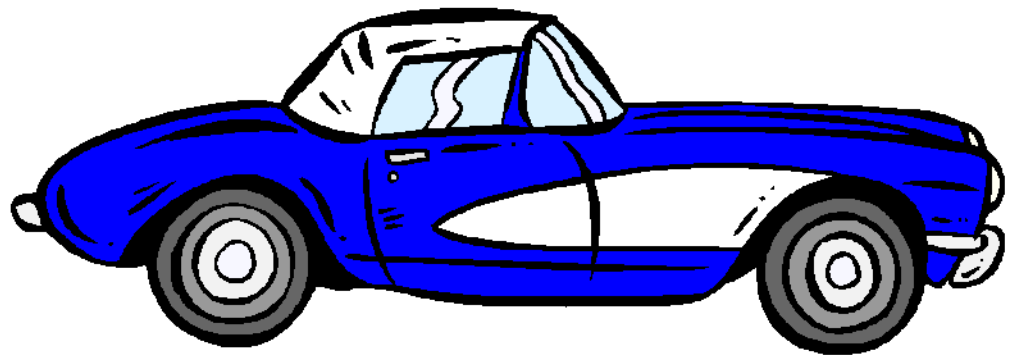**20%** are **apples**
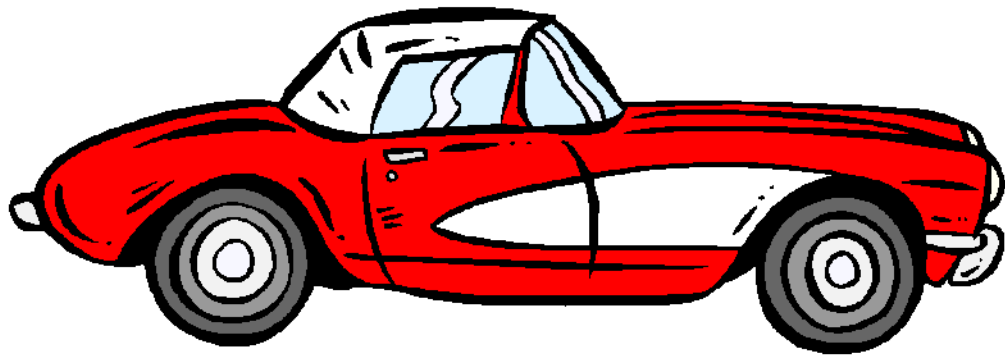
80% are **pears**

What's the Proportion?

What proportion of the paint is orange?
What proportion is blue?

What's the Proportion?

What proportion of the cars are red?
What proportion of cars are blue?

Proportion Problems

Mary has **10 strawberries** and **2 bananas** in her smoothie.

What proportion **strawberries** are in the smoothie?
What is the proportion of **bananas** in the smoothie?

If Mary makes another smoothie, including **4 bananas**, how many strawberries would she need?

Proportion Problems

Sarah shared out her sweets.

For every sweet she gave to Alice she gave herself 3 sweets.

What proportion of the sweets did she keep?

She had 20 sweets altogether. How many sweets does each girl get?