



Printer Ink

A small ink cartridge has enough ink to print 600 pages. Three small ink cartridges can print as many pages as two medium cartridges. Three medium cartridges can print as many pages as two large cartridges. How many pages can be printed using a large cartridge?

Tyre Wear

A car with 5 tyres (four road tyres and a spare) travelled 30000 km. All 5 tyres were used equally. How many kilometres' wear did each tyre receive?

A Leg to Stand On

In the Cafe each table has 3 legs, each chair has 4 legs and all the customers and the three members of staff have two legs each. There are four chairs at each table. At a certain time, three-quarters of the chairs are occupied by customers and there are 206 legs altogether in the cafe. How many chairs does the cafe have?

Fruit Basket Ratio

My fruit basket contains apples and oranges. The ratio of apples to oranges in the basket is 3 : 8. When I remove one apple the ratio changes to 1 : 3. How many oranges are in the basket?

Off the Cuff

A long-sleeve shirt has 8 front buttons and 2 cuff buttons. A short-sleeve shirt has 6 front buttons and no cuff buttons. The factory, which makes 'Slimboy Shirts', uses 10 times as many front buttons as cuff buttons. What is the ratio of long-sleeve shirts to short-sleeve shirts produced by the factory?

Hiking the Hill

Sarah walks uphill at an average of 2 miles per hour, and downhill at an average of 4 miles per hour. She goes for a 6 mile hike up a hill, and then returns downhill by the same route. What is Sarah's average speed in miles per hour for the whole journey?

These problems are adapted from UKMT (ukmt.org.uk) and SEAMC (seamc.asia) problems.