

**Age 14+ Level ★★★
Worksheet 2****1. Laps**

The hare and the tortoise start running together around a 300m track.

The hare runs at a constant speed of 15 km/h and the tortoise runs at a constant speed of 13.8 km/h.

On which of the hare's laps will she first pass the tortoise?

2. Petrol Stop

Roberto drove a total distance of 250 km.

The whole journey took him 3 hours, including a 20 minute stop to get petrol.

Before he stopped for petrol, his average speed was 80 km per hour. After his petrol stop, his average speed was 100 km per hour.

How long did Roberto drive for after his petrol stop?

3. Candles

Two candles have different lengths and different thickness. The shorter one would last 11 hours, the longer one would last for 7 hours.

Both candles are lit at the same time, and 3 hours later both have the same length remaining.

What was the ratio of the length of the longer candle to the shorter candle?

4. Flower Show

It takes four gardeners four hours to dig four circular flower beds, each of diameter four metres.

How long will it take six gardeners to dig six circular flower beds, each of diameter six metres?

5. Marathon Mission

After a year's training, Minnie increased her average speed in the London Marathon by 25%.

By what percentage did her time decrease?

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