



Welcome to this week's Maths Challenge!

Solutions must be explained in detail, responses with just the answer may be ignored.

Drop your solution in the box in the staffroom by Tuesday.

Year 9 and below

If

$$ax = by = cz = 5$$

and

$$\frac{1}{x} + \frac{1}{y} + \frac{1}{z} = 4$$

What is the value of $a + b + c$?

Year 10 and above

Alnitak and Mintaka are 300 km apart. They travel towards each other in a straight line. Each travels at their own constant speed.

If they both set off at 9:00 a.m. then they meet at noon.

If Alnitak sets off at 6:00 a.m. and Mintaka sets off at 10:00 a.m. they still meet at noon.

What speed does Alnitak travel at and what speed does Mintaka travel at?