Maths Challenge

Welcome to this week's Maths Challenge!

It's fine to have a go at both questions!

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 8 and below

You have $10 \, \text{L}$ of nard oil in a $10 \, \text{L}$ alabaster jar, which you need to divide into two equal volumes. You have an empty $3 \, \text{L}$ jar and an empty $3 \, \text{L}$ jar. Using only the jars, measure out two jars of $5 \, \text{L}$ each. (This puzzle first appeared in a book in Japan in 1631.)

Year 9 and above

Without calculating the answer, is

 $15.99 \div 3.99$

more than 4, less than 4 or exactly 4?