14th November **Higher 5-a-day**

Corbettmaths

A recipe for a drink says

"mix 2 parts orange juice with 7 parts lemonade."

$2:7$

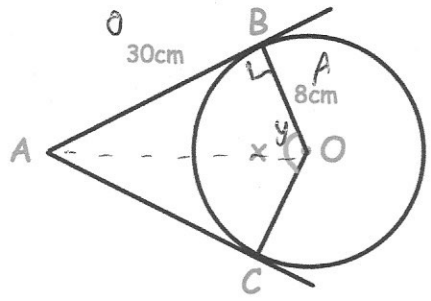
Victoria has 100ml of orange juice and 300ml of lemonade.

What is the maximum amount of the drink that she can make?

300ml lemonade

85.7ml Orange juice

385.714ml



Find x

$\tan y = \frac{30}{8}$

$y = 75.068...$

$x = 150.14°$

Find the coordinates where the line $y = 8x - 15$ and the curve $y = x^2$ meet.

$x^2 = 8x - 15$

$x^2 - 8x + 15 = 0$

$(x - 5)(x - 3) = 0$

$x = 3$ or $x = 5$

$y = 9$ $y = 25$

$(3, 9)$ $(5, 25)$

Write 1008 as a product of prime factors.

Express your answer in index form.

$2^4 \times 3^2 \times 7$

1008

2 × 504

2 × 252

2 × 126

2 × 63

9 × 7

3 × 3

Hence find the **lowest** whole positive number by which 1008 would need to be multiplied by to give a square number.

7

$2^4 \times 3^2 \times 7^2$