

M7 = 7 days to go!

6 The word lengths of the first 60 words in a book were recorded.

The table shows the probability of some of these word lengths.

Number of letters	Probability
1 - 2	0.1 10%
3 - 4	0.25 25%
5 - 6	0.45
7 - 8	0.15
9 or more	0.05 = 5%

All probabilities add to 1.

$$0.95 + ? = 1.00$$

The first chapter contains 7500 words.

How many words of 9 or more letters would you expect in the first chapter?

Answer _____ words [4]

$$5\% \text{ of } 7500 = 375$$

without a calculator

$$10\% \text{ of } 7500 = 750$$

$$5\% \text{ is } \frac{1}{2} \text{ of } 10\%$$

$$5\% \text{ is } 750 \div 2$$

$$375$$

Solve the simultaneous equations

$$2x + 4y = 14$$

$$4x - 4y = 4$$

Do not use trial and improvement

$$\begin{array}{r} \text{+} \quad 2x + 4y = 14 \\ \quad 4x - 4y = 4 \quad \text{+} \\ \hline 6x = 18 \end{array}$$

$$x = 3$$

Substitute in $x=3$ into

$$2x + 4y = 14$$

$$6 + 4y = 14$$

$$4y = 8$$

$$y = 2$$

Now check that it works

$$4x - 4y = 4$$

$$4(3) - 4(2)$$

$$12 - 8$$

$$= 4$$

Yippee!