

18th June



Corbettmaths

Work out

$$\sqrt{150} - \sqrt{24}$$

$$\sqrt{25} \times \sqrt{6} - \sqrt{4} \times \sqrt{6}$$

$$5\sqrt{6} - 2\sqrt{6}$$

$$3\sqrt{6}$$

$$c = \begin{pmatrix} -3 \\ q \end{pmatrix} \quad d = \begin{pmatrix} p \\ 2 \end{pmatrix}$$

Given $4d - c = \begin{pmatrix} 1 \\ -7 \end{pmatrix}$

Work out the values of p and q

$$\begin{pmatrix} 4p \\ 8 \end{pmatrix} - \begin{pmatrix} -3 \\ q \end{pmatrix} = \begin{pmatrix} 1 \\ -7 \end{pmatrix}$$

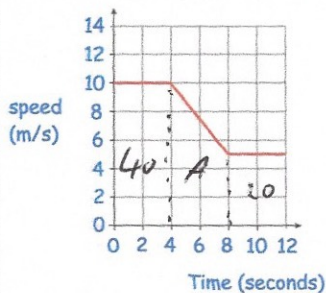
$$4p + 3 = 1$$

$$8 - q = -7$$

$$4p = -2$$

$$q = 15$$

$$p = -\frac{1}{2}$$



Calculate the total distance travelled

$$A = \frac{1}{2}(5 + 10) \times 4$$

$$= 30$$

$$40 + 30 + 20 = 90 \text{ m}$$

The difference between the squares of any two consecutive integers is equal to the sum of the two integers.

$$(n+1)^2 - (n)^2$$

$$n^2 + 2n + 1 - n^2 = 2n + 1$$

$$(n+1) + n = 2n + 1$$

QED

Here are six number tiles.



Two tiles are taken without replacement. Work out the probability that the number on the second is less than the number on the first tile.

$$P(5, 4 \text{ or } 3) = \frac{3}{6} \times \frac{3}{5} = \frac{9}{30}$$

$$P(4, 3) = \frac{1}{6} \times \frac{2}{5} = \frac{2}{30}$$

$$\frac{11}{30}$$