

Answers on the website!

If  $a = 3$ , find the value of:

$$\begin{aligned} a &= 3 \\ 2a &= 6 \\ 5a &= 15 \\ 7a &= 21 \\ 10a &= 30 \\ 2a + 2 &= 8 \\ 3a + 1 &= 10 \\ 5a + 3 &= 18 \\ 4a + 7 &= 19 \\ 8a + 11 &= 35 \end{aligned}$$

If  $a = 5$ , find the value of:

$$\begin{aligned} 20 - a &= 15 \\ 30 - 2a &= 20 \\ 50 - 3a &= 35 \\ 40 - 4a &= 20 \\ 100 - 2a &= 90 \end{aligned}$$

If  $a = 4$  and  $b = 5$ , find the value of:

$$\begin{aligned} a + b &= 9 \\ 2a + b &= 13 \\ 2a + 2b &= 18 \\ 3a + 4b &= 32 \\ 6a + 4b &= 44 \\ 8a - 1b &= 27 \\ 10a - 2b &= 30 \\ 15b - 3a &= 45 \\ 25b - 2a &= 90 \\ 16b - 3a &= 49 \end{aligned}$$

If  $p = 2$  and  $q = 7$ , find the value of:

$$\begin{aligned} 2p - q &= -3 \\ 5p - 5q &= -25 \\ 5q - 3p &= 29 \\ 3p - 2q &= -8 \\ 6q - 2p &= 38 \end{aligned}$$

If  $a = 2$ , find the value of:

$$\begin{aligned} a^2 &= 4 \\ a^2 + 1 &= 5 \\ a^2 + 4 &= 8 \\ a^2 + 10 &= 14 \\ a^2 + 20 &= 24 \\ 2a^2 &= 8 \\ 2a^2 + 1 &= 9 \\ 2a^2 + 2 &= 10 \\ 2a^2 + 5 &= 13 \\ 2a^2 + 11 &= 17 \end{aligned}$$

If  $a = 3$ , find the value of:

$$\begin{aligned} a^2 - 11 &= -2 \\ 2a^2 - 20 &= -2 \\ a^3 &= 27 \\ 2a^3 + 1 &= 55 \\ 2a^3 + 12 &= 66 \end{aligned}$$

If  $x = 4$  and  $y = 6$ , find the value of:

$$\begin{aligned} x^2 + y &= 22 \\ x^2 + y^2 &= 52 \\ 2x^2 + y^2 &= 68 \\ 2x^2 + 2y^2 &= 104 \\ 2x^2 + 3y^2 &= 140 \\ 2x^2 - y^2 &= -4 \\ 3x^2 - y^2 &= 12 \\ 4x^2 + 2y^2 &= 136 \\ 5x^2 - 3y^2 &= -28 \\ 2x^2 + 10y^2 &= 392 \end{aligned}$$

If  $x = 3$  and  $y = 8$ , find the value of:

$$\begin{aligned} x^3 + y &= 35 \\ x^3 + 2y &= 43 \\ x^3 + y^2 &= 91 \\ 2x^3 + y^2 &= 118 \\ x^3 - y^2 &= -37 \end{aligned}$$

Here are three expressions:

$$a^2 \qquad a - b \qquad ab$$

When  $a = 2$  and  $b = 5$  which expression has the smallest value?

You must show your working  
 $a - b = -3$

Stephen Hawking is trying to work out the two values of  $x$  for which  $2x - x^2 = 0$

His values are 2 and -2  
Are his values correct?

You must show your working  
YES!

$$A = 2B - 3C - 6D$$

Work out the value of A when  $B = 4$ ,  $C = 5$  and  $D = -2$       5!

A painter uses this formula to work out how much he charges to make a portrait.

$$P = \frac{5(16+A)}{2}$$

$P$  is the charge in £  
 $A$  is the area in  $m^2$  of the canvas

He makes a painting measuring 1.6m by 2.5m

How much does he charge?      £10

$$x = \frac{1}{3} \qquad y = \frac{1}{5}$$

Work out the value of  $xy$

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