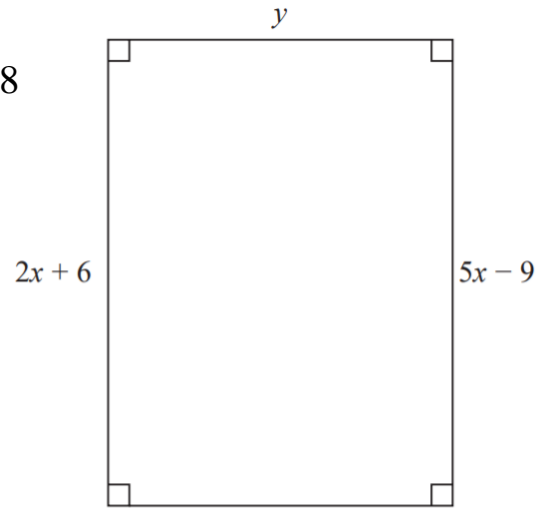


## Four Maths Questions at Different Levels – Question Set 5

Easy higher tier GCSE

The area of the rectangle is 48

Find the value of  $y$



Edexcel GCSE, Nov 2017, Paper 1

Harder higher tier GCSE

Solve algebraically the simultaneous equations

$$\begin{aligned}x^2 + y^2 &= 25 \\ y - 3x &= 13\end{aligned}$$

Edexcel GCSE, June 2017, Paper 1

Something interesting

Use all of...

3 3 8 8

And any of...

+ - × ÷

To make the number 24

(No idea where this question came from!)

A Level

(i) Show that  $\sum_{r=1}^{16} (3 + 5r + 2^r) = 131\,798$

(ii) A sequence  $u_1, u_2, u_3, \dots$  is defined by

$$u_{n+1} = \frac{1}{u_n}, \quad u_1 = \frac{2}{3}$$

Find the exact value of  $\sum_{r=1}^{100} u_r$

Edexcel, Paper 2, June 2018

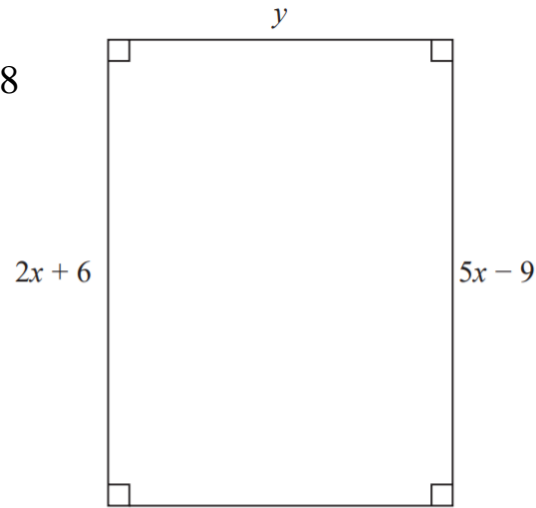
## Four Maths Questions at Different Levels – Answers Set 5

Easy higher tier GCSE

The area of the rectangle is 48

Find the value of  $y$

$$y = 3$$



Harder higher tier GCSE

Solve algebraically the simultaneous equations

$$x^2 + y^2 = 25$$

$$y - 3x = 13$$

$$x = -\frac{24}{5}, y = -\frac{7}{5} \quad \text{and} \quad x = -3, y = 4$$

Edexcel GCSE, June 2017, Paper 1

Something interesting

Use all of...

3 3 8 8

And any of...

+ - × ÷

To make the number 24

$$\frac{8}{3 - \frac{8}{3}}$$

(No idea where this question came from!)

A Level

(i) Show that  $\sum_{r=1}^{16} (3 + 5r + 2^r) = 131\,798$

(ii) A sequence  $u_1, u_2, u_3, \dots$  is defined by

$$u_{n+1} = \frac{1}{u_n}, \quad u_1 = \frac{2}{3}$$

Find the exact value of  $\sum_{r=1}^{100} u_r$   $\frac{325}{3}$  or  $108.\dot{3}$

Edexcel, Paper 2, June 2018