

# SIMULTANEOUS EQUATIONS (LINEAR)

[ESTIMATED TIME: 75 minutes]



# GCSE

(+ IGCSE) EXAM QUESTION PRACTICE

1.

[3 marks]

Solve the simultaneous equations

$$y - 2x = 6$$

$$y + 2x = 0$$

Show clear algebraic working.

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

2.

[3 marks]

Showing clear algebraic working, solve the simultaneous equations

$$3a + 2b = 1$$

$$a + 2b = 5$$

$$a = \dots\dots\dots$$

$$b = \dots\dots\dots$$



**3.****[3 marks]**

Solve the simultaneous equations

$$3x + y = 4$$

$$5x - y = 8$$

You must show sufficient working.

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

**4.****[3 marks]**

Solve the simultaneous equations

$$5x + y = 17$$

$$x + y = 3$$

Show clear algebraic working.

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$



**5.****[3 marks]**

Solve the simultaneous equations

$$\begin{aligned}c + 5d &= -13 \\ 4c - 5d &= 48\end{aligned}$$

Show clear algebraic working.

$$c = \dots\dots\dots$$

$$d = \dots\dots\dots$$

**6.****[3 marks]**

Solve  $x + 2y = 3$

$$x - y = 6$$

Show clear algebraic working.

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$



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**7.****[3 marks]**

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Solve the simultaneous equations

$$\begin{aligned}y &= x + 3 \\ y &= 7x\end{aligned}$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

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**8.****[3 marks]**

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Solve the simultaneous equations

$$\begin{aligned}5y - 4x &= 8 \\ y + x &= 7\end{aligned}$$

Show clear algebraic working.



**9.****[3 marks]**

Solve the simultaneous equations

$$5x + 4y = 3$$

$$x - 2y = 2$$

You must show sufficient working.

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

**10.****[3 marks]**

Solve the simultaneous equations

$$6x + 5y = 5$$

$$3x - 10y = 15$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$



Solve the simultaneous equations

$$2x + 5y = 16$$

$$4x + 3y = 11$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$



Solve the simultaneous equations

$$\begin{aligned}8x - 4y &= 7 \\12x - 8y &= 6\end{aligned}$$

Show clear algebraic working.

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$



Solve the simultaneous equations

$$2x - 5y = 13$$

$$6x + 3y = 3$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$





Solve the simultaneous equations

$$2x - 3y = 3$$

$$3x + 6y = 1$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$



(a) Solve the simultaneous equations

$$2x + 3y = 4$$

$$6x + 5y = 8$$

$$x = \dots\dots\dots y = \dots\dots\dots$$

**(3)**

(b) Write down the coordinates of the point of intersection of the two lines whose equations are

$$2x + 3y = 4 \text{ and}$$

$$6x + 5y = 8$$

$$(\dots\dots\dots, \dots\dots\dots)$$

**(1)**



**16.****[4 marks]**

Solve  $4x + 3y = 6$

$$3x + 5y = -1$$

Show clear algebraic working.

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

**17.****[4 marks]**

Solve the simultaneous equations

$$6x - 5y = 13$$

$$4x - 3y = 8$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$



(a) Solve the simultaneous equations

$$\begin{aligned}2x - 3y &= 9 \\5x + 4y &= 11\end{aligned}$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

**(4)**

(b) Write down the coordinates of the point of intersection of the two lines whose equations are  $2x - 3y = 9$  and  $5x + 4y = 11$

$$(\dots\dots\dots, \dots\dots\dots)$$

**(1)**



Solve the simultaneous equations

$$4x + 5y = 13$$

$$3x - 2y = 27$$

Show clear algebraic working.

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$



Solve the simultaneous equations

$$3x + 4y = 6$$

$$5x + 6y = 11$$

Show clear algebraic working.

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$



(a) Solve the simultaneous equations

$$5x + 3y = 9$$

$$7x - 2y = 25$$

Show clear algebraic working.

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

(4)

(b)  $P$  is the point of intersection of the lines with equations  $5x + 3y = 9$  and  $7x - 2y = 25$

Write down the coordinates of  $P$ .

$$(\dots\dots\dots, \dots\dots\dots)$$

(1)



- (a) Solve the simultaneous equations  $3x + 5y = 14$   
 $4x + 3y = 4$

Show clear algebraic working.

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

(4)

- (b) Write down the coordinates of the point of intersection of the two lines whose equations are  $3x + 5y = 14$  and  $4x + 3y = 4$

$$(\dots\dots\dots, \dots\dots\dots)$$

(1)

