

**YEAR 11**

Simultaneous Equations

Two equations, two unknowns. Eliminate one letter by adding or subtracting, find the other, then substitute back. Always check both equations at the end.

Section A · Solving by elimination

① $x + y = 10$
 $x - y = 4$ **$x = 7, y = 3$**

② $2x + y = 11$
 $x + y = 7$ **$x = 4, y = 3$**

③ $3x + 2y = 16$
 $x + 2y = 8$ **$x = 4, y = 2$**

④ $4x + 3y = 18$
 $2x - 3y = 0$ **$x = 3, y = 2$**

⑤ $5x + 2y = 24$
 $3x - 2y = 8$ **$x = 4, y = 2$**

⑥ $2x + 3y = 13$
 $3x - y = 3$ **$x = 2, y = 3$**

⑦ $x + 4y = 8$
 $3x - 2y = 10$ **$x = 4, y = 1$**

⑧ $6x + y = 15$
 $2x + y = 7$ **$x = 2, y = 3$**

Section B · Forming your own equations

⑨ Three coffees and two teas cost £11.50. One coffee and two teas cost £6.50.
Find the cost of one coffee and the cost of one tea. **Coffee £2.50, tea £2.00**

⑩ Five apples and three pears cost £3.10. Two apples and three pears cost £1.60.
Find the cost of one apple and the cost of one pear. **Apple 50p, pear 20p**

- 11 Two adult tickets and three child tickets cost £60. One adult ticket and one child ticket cost £23. Find the price of each ticket. **Adult £9, child £14**
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- 12 Four pens and two rulers cost £50. One pen and one ruler cost £18. Find the cost of each. **Pen £7, ruler £11**
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