

LINEAR SIMULTANEOUS EQUATIONS

Task 1 – Solve the simultaneous equations.

Do not use trial and improvement.

1) $x + 5y = 23$

$x + 3y = 15$

2) $2x + 3y = 7$

$2x + y = 5$

3) $5x + 3y = 23$

$2x + 3y = 20$

4) $8x - y = 20$

$7x + y = 10$

5) $4x - 8y = 0$

$4x + 10y = -9$

Task 2 – Solve the simultaneous equations.

Do not use trial and improvement.

6) $4x + 5y = 40$

$2x + 2y = 18$

7) $6x - 7y = 22$

$3x + 5y = 28$

8) $3x + 8y = 104$

$2x - 6y = -44$

9) $5x - 3y = -3$

$2x + 6y = 42$

10) $-5x - 9y = -26$

$3x + 10y = 34$

11) $7x + 3y = -63$

$8x + 9y = -111$

12) $9x - 2y = 13$

$6x + 8y = 4$

Task 3

- 13) At the cinema, 2 adult tickets and 1 child ticket cost £25. 1 adult ticket and 3 child tickets cost £27.

Work out the price of one adult ticket.

Work out the price of one child ticket.

Do not use trial and improvement.

- 14) In a café, 2 sandwiches and 3 drinks cost £17.75. 3 sandwiches and 2 drinks cost £21.

Work out the cost of one sandwich.

Work out the cost of one drink.

Do not use trial and improvement.

Challenge

- 15) Solve the simultaneous equations

$$3x + 4y - 18 = 0$$

$$y = 2x + 8$$

- 16) Solve the simultaneous equations

$$2x = 8 - 7y$$

$$\frac{y}{2} + 10 - x = 2$$

- 17) Solve the simultaneous equations

$$x + y + z = 4.5$$

$$2x + 2y = 4$$

$$2z = x$$

- 18) A basket contains apples and oranges. The total number of fruits is 50. There are 12 more apples than oranges. Work out the number of apples and oranges. Do not use trial and improvement.