Simultaneous Equations from Worded Problems

1

A notebook and 2 pens cost £5.
Three notebooks and 2 pens cost £11.
Find the cost of each.

Let n = the cost of a notebook, p = the cost of a pen, in £.

(1) $n + 2p = 5$

(2) $3n + 2p = 11$

Answer _____

2

Two numbers add to 31.
Their difference is 7.
Find the two numbers.

Let a = the larger number, b = the smaller number.

Answer _____

3

2 adult and 3 child tickets cost £31.
1 adult and 2 child tickets cost £18.
Find the cost of each ticket.

Let a = the cost of an adult ticket, c = the cost of a child ticket, in £.

Answer _____

4

A theatre sells 120 tickets.
Stalls tickets cost £15 and balcony tickets cost £10. It takes £1550. How many of each does it sell?

Answer _____

5

3 mugs and 2 plates cost £27. 2 mugs and 5 plates cost £29. Find the cost of each.

Answer _____

6

A café sells 40 drinks. Coffees cost £3 and waters cost £1. It takes £86.
Ola writes $c + w = 86$.
Explain her mistake. Then find how many coffees and how many waters the café sells.

Answer _____

7

A gym charges a joining fee and then the same amount each month. 3 months cost £65 in total. 7 months cost £125 in total. Find the joining fee and the monthly charge.

Answer _____

8

A rectangle has a perimeter of 34 cm. Its length is 5 cm more than its width. Find the length and the width.

Answer _____

Simultaneous Equations from Worded Problems *further practice*

9

Twice one number plus 3 times another is 29. Five times the first minus the second is 13. Find the two numbers.

Answer _____

10

4 bananas and 3 apples cost £2.30.
2 bananas and 5 apples cost £2.20.
Find the cost of each, in pence.

Answer _____

11

A taxi charges a fixed amount plus the same amount for each mile.
4 miles cost £10.60. 9 miles cost £19.10.
Find the fixed charge and the cost of a mile.

Answer _____

12

A minibus carries 16 people and a car carries 4. 9 vehicles carry 84 people, all full. How many minibuses are there?

Answer _____

13

A shop sells 30 bags of flour, small bags at £2 and large bags at £5. Tia says it took £100. Show that Tia must be wrong.

Answer _____

14

In a quiz, 3 hard and 4 easy questions score 20 points in total. 5 hard and 3 easy score 26. Find each score.

Answer _____

15

Write a story that fits $c + d = 12$ and $2c + 5d = 39$. Then solve it.

Answer _____

16

Mo writes $c + d = 10$ and $2c + 2d = 20$ for a story. Explain why he cannot find c and d.

Answer _____