Simultaneous Equations

IGCSE Maths · Grades 9–10 · British and American curriculum · About 30 minutes · 8 questions

Name _____ Date _____ Score / 8

WHAT YOU WILL PRACTISE

- Solve simultaneous equations by elimination
- Solve simultaneous equations by substitution
- Form and solve simultaneous equations from a context

WORKED EXAMPLE

Solve $2x + y = 9$ and $x - y = 3$.

1. The y terms have opposite signs, so add the equations: $3x = 12$.
2. Divide by 3: $x = 4$.
3. Substitute into the first equation: $2 \times 4 + y = 9$, so $y = 1$.
4. Check in the second equation: $4 - 1 = 3$.

Answer: $x = 4$, $y = 1$

Questions

Show your working in the space under each question.

1. Solve $x + y = 10$ and $x - y = 4$

2. Solve $2x + y = 11$ and $x + y = 7$

3. Solve $3x + 2y = 16$ and $x + 2y = 8$

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4. Solve $2x + 3y = 13$ and $2x - y = 1$

5. Solve $3x + y = 14$ and $2x + 3y = 14$

6. Solve $5x - 2y = 11$ and $3x + 4y = 17$

7. Solve $y = 2x + 1$ and $3x + y = 16$

8. Two coffees and three teas cost OMR 9.900. Four coffees and one tea cost OMR 11.300. Find the cost of one coffee and the cost of one tea.

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Answers: Simultaneous Equations

Mark your own work, then go back to any question you got wrong before reading the tutor tip.

Q	QUESTION	ANSWER
1	Solve x + y = 10 and x − y = 4	**x = 7, y = 3**
2	Solve 2x + y = 11 and x + y = 7	**x = 4, y = 3**
3	Solve 3x + 2y = 16 and x + 2y = 8	**x = 4, y = 2**
4	Solve 2x + 3y = 13 and 2x − y = 1	**x = 2, y = 3**
5	Solve 3x + y = 14 and 2x + 3y = 14	**x = 4, y = 2**
6	Solve 5x − 2y = 11 and 3x + 4y = 17	**x = 3, y = 2**
7	Solve y = 2x + 1 and 3x + y = 16	**x = 3, y = 7**
8	Two coffees and three teas cost OMR 9.900. Four coffees and one tea cost OMR 11.300. Find the cost of one coffee and the cost of one tea.	**Coffee OMR 2.400, tea OMR 1.700**

TUTOR TIP

Same signs subtract, different signs add. Then always check your pair of values in the equation you did not use for substitution.

Stuck on a question? Work through it live with a tutor.

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Written for students aged 13 to 16 and suitable for Grades 9–10. Check your school’s curriculum for the exact order of topics. YFCampus is independent and is not affiliated with any exam board or education ministry.