# Simultaneous Equations

Class 9–10 Maths · Classes 8–10 · CBSE and ICSE · 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 ₹990. Four coffees and one tea cost ₹1,130. 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 ₹990. Four coffees and one tea cost ₹1,130. Find the cost of one coffee and the cost of one tea. | **Coffee ₹240, tea ₹170** |

**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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