

Boost Free Lessons - Year 7 Maths

Lesson 15: 2 Step Equations

Name: _____ Grade: _____ Date: _____

Worked Example 1

Solve $3x + 5 = 20$

1. Undo the addition first: subtract 5 from both sides, giving $3x = 15$.
2. Now undo the multiplication: divide both sides by 3.
3. Check by substituting back: $3 \times 5 + 5 = 20$ (correct)

$x = 5$

Worked Example 2

Solve $\frac{m}{4} - 2 = 6$

1. Undo the subtraction first: add 2 to both sides, giving $\frac{m}{4} = 8$.
2. Now undo the division: multiply both sides by 4.
3. Check by substituting back: $32 \div 4 - 2 = 6$ (correct)

$m = 32$

Remember: Undo the operations in **reverse** order. Deal with the + or – first, then the $\times$ or $\div$.



Question 1: Solve the following equations.

1. $2x + 3 = 11$

2. $5y - 4 = 16$

3. $3a + 7 = 22$

4. $4k - 9 = 11$

5. $6n + 12 = 30$

6. $7p - 5 = 30$

7. $2t + 15 = 9$

8. $10c - 3 = 27$

9. $8w + 6 = 6$

10. $9d - 18 = 0$



Question 2: Solve the following equations.

1. $\frac{x}{2} + 3 = 8$

2. $\frac{m}{5} - 1 = 4$

3. $\frac{y}{3} + 7 = 7$

4. $4x + 9 = 1$

5. $3 - 2x = 11$

6. $20 = 5k - 10$

7. $\frac{a}{4} - 6 = -2$

8. $12 - 3n = 0$



Question 3: Answer the following questions.

1. A taxi charges \$4 flagfall plus \$2 per kilometre. The fare was \$26. Write an equation and find how far the trip was.

2. A Boost membership has a \$30 joining fee plus \$45 per week. A family has paid \$255 in total. Write an equation and find how many weeks they have been members.

3. Three times a number, plus 8, equals 35. Write an equation and find the number.

4. A rectangle has a perimeter of 34 cm and a width of 5 cm. Write an equation and find its length.

5. Mia splits her money into 4 equal parts. She spends \$7 from one part and has \$13 left from it. Write an equation and find how much she started with.





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Answers : 2 Step Equations**Question 1**

1. $x = 4$

2. $y = 4$

3. $a = 5$

4. $k = 5$

5. $n = 3$

6. $p = 5$

7. $t = -3$

8. $c = 3$

9. $w = 0$

10. $d = 2$

Question 2

1. $x = 10$

2. $m = 25$

3. $y = 0$

4. $x = -2$

5. $x = -4$

6. $k = 6$

7. $a = 16$

8. $n = 4$

Question 3

1. $4 + 2k = 26$, so $k = 11$ km

2. $30 + 45w = 255$, so $w = 5$ weeks

3. $3n + 8 = 35$, so $n = 9$

4. $2L + 10 = 34$, so $L = 12$ cm

5. $\frac{m}{4} - 7 = 13$, so $m = \$80$

