

GRADE 7 MATHEMATICS

Linear Equations

Complete Printable Worksheet Pack

Includes	6 Practice Worksheets + 6 Answer Keys
Skills	One-Step • Two-Step • Brackets • Variables on Both Sides • Fractions & Decimals • Applications
Level	Grade 7 / International Curriculum Friendly
Format	A4 • Print Ready

Worksheet 1 — One-Step Equations

Name: _____ Date: _____

1. Solve: $x + 7 = 19$.
2. Solve: $y - 12 = 25$.
3. Solve: $5a = 45$.
4. Solve: $m \div 6 = 8$.
5. Solve: $p + 14 = 31$.
6. Solve: $72 - n = 39$.
7. Solve: $9r = 108$.
8. Solve: $t \div 4 = 13$.
9. A number increased by 18 is 47. Find the number.
10. A number divided by 7 is 12. Find the number.

Show every algebraic step and check your final answer where possible.

Answer Key — Worksheet 1

Use the answers to check both your solution and your method.

1. $x = 12$

2. $y = 37$

3. $a = 9$

4. $m = 48$

5. $p = 17$

6. $n = 33$

7. $r = 12$

8. $t = 52$

9. 29

10. 84

Worksheet 2 — Two-Step Equations

Name: _____ Date: _____

1. Solve: $2x + 5 = 21$.
2. Solve: $3y - 7 = 20$.
3. Solve: $5a + 4 = 39$.
4. Solve: $4m - 9 = 27$.
5. Solve: $n/3 + 6 = 14$.
6. Solve: $p/5 - 2 = 7$.
7. Solve: $7r + 3 = 45$.
8. Solve: $6t - 11 = 31$.
9. A number is multiplied by 4 and then 9 is added. The result is 37. Find the number.
10. Three times a number minus 8 equals 34. Find the number.

Show every algebraic step and check your final answer where possible.

Answer Key — Worksheet 2

Use the answers to check both your solution and your method.

1. $x = 8$

2. $y = 9$

3. $a = 7$

4. $m = 9$

5. $n = 24$

6. $p = 45$

7. $r = 6$

8. $t = 7$

9. 7

10. 14

Worksheet 3 — Equations with Brackets & Variables on Both Sides

Name: _____ Date: _____

1. Solve: $3(x + 4) = 27$.
2. Solve: $5(y - 2) = 35$.
3. Solve: $2(a + 6) = 3a + 4$.
4. Solve: $4m - 5 = 2m + 13$.
5. Solve: $7p + 2 = 4p + 20$.
6. Solve: $3(r + 5) = 2r + 19$.
7. Solve: $5(t - 1) + 2 = 3t + 10$.
8. Solve: $2(3x + 1) = 4x + 14$.
9. Solve: $6n - 4 = 2(n + 5)$.
10. Solve: $3(2q - 1) + 4 = 5q + 9$.

Show every algebraic step and check your final answer where possible.

Answer Key — Worksheet 3

Use the answers to check both your solution and your method.

1. $x = 5$

2. $y = 9$

3. $a = 8$

4. $m = 9$

5. $p = 6$

6. $r = 4$

7. $t = 6$

8. $x = 6$

9. $n = 7$

10. $q = 8$

Worksheet 4 — Equations with Fractions & Decimals

Name: _____ Date: _____

1. Solve: $x/4 = 7$.
2. Solve: $y/5 + 2 = 9$.
3. Solve: $3a/4 = 18$.
4. Solve: $m/2 - 3 = 8$.
5. Solve: $0.5p + 3 = 11$.
6. Solve: $1.2r - 4 = 8$.
7. Solve: $(t + 3)/5 = 7$.
8. Solve: $2.5n + 1.5 = 11.5$.
9. Solve: $3q/2 - 4 = 11$.
10. Solve: $(2s - 1)/3 = 5$.

Show every algebraic step and check your final answer where possible.

Answer Key — Worksheet 4

Use the answers to check both your solution and your method.

1. $x = 28$

2. $y = 35$

3. $a = 24$

4. $m = 22$

5. $p = 16$

6. $r = 10$

7. $t = 32$

8. $n = 4$

9. $q = 10$

10. $s = 8$

Worksheet 5 — Equations in Real-Life Problems

Name: _____ Date: _____

1. A number plus 15 is 42. Write an equation and solve it.
2. A rectangle has width 7 cm and area 84 cm^2 . If its length is x cm, write an equation and find x .
3. A taxi charges \$5 plus \$2.50 per kilometre. A journey costs \$30. Write an equation and find the distance.
4. A book costs \$8 less than three times the price of a notebook. The book costs \$28. Find the notebook price.
5. A gym charges a \$20 joining fee plus \$15 per month. The total paid is \$95. For how many months was the membership paid?
6. A number is doubled and then decreased by 13 to give 35. Find the number.
7. The perimeter of a square is 64 cm. If the side is x cm, write an equation and find x .
8. A student has \$120 and spends \$18 each week. After several weeks, \$30 remains. How many weeks passed?
9. Three identical pens and a \$4 notebook cost \$19. Find the cost of one pen.
10. A temperature is 7°C less than twice another temperature. It is 25°C . Find the other temperature.

Show every algebraic step and check your final answer where possible.

Answer Key — Worksheet 5

Use the answers to check both your solution and your method.

1. $x + 15 = 42$; $x = 27$

2. $7x = 84$; $x = 12$ cm

3. $5 + 2.5d = 30$; $d = 10$ km

4. $3n - 8 = 28$; $n = \$12$

5. $20 + 15m = 95$; $m = 5$ months

6. $2n - 13 = 35$; $n = 24$

7. $4x = 64$; $x = 16$ cm

8. $120 - 18w = 30$; $w = 5$ weeks

9. $3p + 4 = 19$; $p = \$5$

10. $2t - 7 = 25$; $t = 16^{\circ}\text{C}$

Worksheet 6 — Linear Equations Challenge

Name: _____ Date: _____

1. Solve: $4(2x - 3) = 3x + 27$.
2. Solve: $5(2y + 1) - 3 = 4y + 20$.
3. Solve: $7a - 2(a + 4) = 25$.
4. Solve: $3(2m - 5) + 4 = 2(m + 7)$.
5. Solve: $(3p + 2)/4 = 8$.
6. Solve: $0.4r + 2.8 = 7.6$.
7. Two consecutive integers have a sum of 73. Find them.
8. Three consecutive integers have a sum of 96. Find them.
9. A rectangle has length 3 cm more than twice its width. Its perimeter is 42 cm. Find its dimensions.
10. The equation $5x + 12 = 2x + 30$ is solved by a student who gets $x = 4$. Is the answer correct? Show a check and give the correct value.

Show every algebraic step and check your final answer where possible.

Answer Key — Worksheet 6

Use the answers to check both your solution and your method.

1. $x = 13$

2. $y = 9$

3. $a = 11$

4. $m = 10$

5. $p = 10$

6. $r = 12$

7. 36 and 37

8. 31, 32 and 33

9. Width = 6 cm, length = 15 cm

10. No. $5x+12=2x+30$ gives $3x=18$, so $x=6$.