

## Chapter 4 — Solving Two-Step and Multi-Step Equations

### Worksheet C: Mixed Application

Name: \_\_\_\_\_ Grade: \_\_\_\_\_ Date: \_\_\_\_\_

1. A taxi charges \$4 to start and \$2.50 per kilometre. The total fare is \$29. Write and solve an equation for the number of kilometres travelled.

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2. Solve and check:  $5(2m-1)=35$

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3. Solve and check:  $2b+11=5b-7$

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4. Determine the number of solutions:  $3x+10=3x+10$

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5. A streaming service charges a \$12 monthly fee plus \$3 for each movie rental. A customer's bill is \$30. Write and solve an equation for the number of rentals.

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6. Solve and check:  $4x-9=27$

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7. Solve and check:  $y \div 3 + 7 = 12$

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8. Solve and check:  $7-3(n+2)=-14$

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9. Solve and check:  $6a-4+3a=32$

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10. Solve and check:  $4p-6=2p+18$

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11. Determine the number of solutions:  $5m-8=5m+1$

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12. A rectangle has a length that is 4 cm more than its width. The perimeter is 40 cm. Find the width and length.

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13. A student solves  $3x+4=22$  and writes  $3x=26$ . Identify the error and solve correctly.

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14. Non-Routine: A student says that the equation  $4(x-2)=4x-8$  has no solution because the left side has brackets and the right side does not. Is the student correct? Explain what the equation becomes after simplifying. Then determine how many solutions it has.

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15. Non-Routine: A student solves  $3(x-2)+2x=19$  as follows:  $3x-6+2x=19$ ,  $5x-6=19$ ,  $5x=25$ ,  $x=5$ . Is the student correct? Check the solution in the original equation. If the solution is correct, explain why the sequence works. If it is not correct, identify the first incorrect step and solve correctly.
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