Solving Algebraic Equations (Grade 8)

MEMORANDUM

Name: ..... Class: .....

Date: .....

MARK ____ / 15

Answer all questions. Show all your working — marks are awarded for method as well as the final answer. **Teacher copy: accept any correct equivalent method.**

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1 Solve: $x + 9 = 15$ (1)

$x = 6$ ✓ (1)

2 Solve: $x - 4 = 10$ (1)

$x = 14$ ✓ (1)

3 Solve: $6x = 42$ (1)

$x = 7$ ✓ (1)

4 Solve: $x \div 3 = 5$ (1)

$x = 15$ ✓ (1)

5 Solve: $2x + 7 = 19$ (2)

$2x = 12 \rightarrow x = 6$ ✓✓ (2)

6 Solve: $5x - 3 = 22$ (2)

$5x = 25 \rightarrow x = 5$ ✓✓ (2)

7 Solve: $3(x - 2) = 12$ (2)

$3x - 6 = 12 \rightarrow 3x = 18 \rightarrow x = 6$ ✓✓ (2)

8 Solve: $x^2 = 49$ (2)

$7^2 = 49$ and $(-7)^2 = 49$, so $x = 7$ **or** $x = -7$ ✓✓ (2)

9 A number is doubled and 5 is added, giving 17. Find the number. (3)

$2x + 5 = 17 \rightarrow 2x = 12 \rightarrow x = 6$ ✓✓✓ (3)

TOTAL: 15 marks

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