

**Section A: Square Roots, Powers,  
Equations and Word Problems**

Name: \_\_\_\_\_

*Simplify. (1K each)*

1.  $-9 + 3a - 2b - c - 4a + 5c - 3b$

2.  $x^2 + 3x - 7 - 2x^2 - 5x + 8$

*Expand and simplify. (2K each)*

3.  $-3(4x + 5) + 5(x + 8)$

4.  $3(2x - 5) - 3(3x - 1)$

5.  $3(x^2 - 4x - 7) - 2(x^2 + x + 7)$

6.  $-2(y^2 - y - 3) + 4(2y^2 - 3y + 1)$

*Solve (1K each)*

7.  $x + 9 = 13$

8.  $8x = 36$

9.  $3x = -21$

*Solve and check (2K each)*

10.  $7x - 3x + x = 11 - 15 - 1$

11.  $4x - 3x - 5x = 13 - 17 - 4$

*Solve and check (3K each)*

12.  $3x + 10 = 5x - 12$

13.  $4x + 9 + 2x = 7x - 2 - 12x$

*Solve and check (3T/I each)*

14.  $3(x - 5) = 5(x + 1) + 4$

15.  $2(x + 3) - (2x - 5) = 2(x + 1) + 1$

16.  $0.2x - 0.7 = 0.8x + 1.7$

17.  $1.2x + 2.3 = 3.6 - 2.4x - 8.5$

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

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

20. **Car rally** Heidi and Kelly drove in an antique car rally. Kelly left a checkpoint at 09:00 travelling at 45km/h. One hour later, Heidi left the same checkpoint travelling at 50km/h. At what time did Heidi overtake Kelly? (4T/I)

21. All that Katelyn has in her wallet are loonies and quarters, there are 15 more quarters than loonies and the total amount is \$21.25. How many quarters are there? (3T/I)