Name: _____

Adding and Subtracting Polynomials

Directions: Simplify each expression.

1. $(z + 4) + (z - 4)$
2. $(2a + 3) - (a - 1)$
3. $(2a^2 + 3a - 1) - (a^2 + 2a - 3)$
4. $(x^2 - 3x + 2) + (x^2 + 3x - 2)$
5. $(2y^2 + y + 1) + (3y^2 - y - 1)$
6. $(2y^2 + 1) + (3y^2 - 1)$
7. $(2g^2 - g + 3) - (g^2 + 5g - 2)$
8. $(h^2 + 2h + 1) + (h^2 - 2h + 4)$
9. $(b - 2) + (3b + 4)$
10. $(4c - 1) + (2c + 2)$
11. $(4c^2 - c + 2) - (2c^2 + c - 4)$
12. $(2g - 1) + (g + 5)$
13. $(z^2 + 4z + 3) + (z^2 - 4z - 3)$
14. $(3a^2 + a + 1) - (a^2 + a - 1)$
15. $(b^2 - 2b + 1) + (3b^2 + 4b - 2)$
16. $(3d^2 + 3d - 5) - (d^2 - 2d + 1)$

ANSWER KEY

1. $(z + 4) + (z - 4)$
   $2z$

2. $(2a + 3) - (a - 1)$
   $a + 4$

3. $(2a^2 + 3a - 1) - (a^2 + 2a - 3)$
   $a^2 + a + 2$

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

5. $(2y^2 + y + 1) + (3y^2 - y - 1)$
   $5y^2$

6. $(2y^2 + 1) + (3y^2 - 1)$
   $5y^2$

7. $(2g^2 - g + 3) - (g^2 + 5g - 2)$
   $g^2 – 6g + 5$

8. $(h^2 + 2h + 1) + (h^2 - 2h + 4)$
   $2h^2 + 5$

9. $(b - 2) + (3b + 4)$
   $4b + 2$

10. $(4c - 1) + (2c + 2)$
    $6c + 1$

11. $(4c^2 - c + 2) - (2c^2 + c - 4)$
    $2c^2 – 2c + 6$

12. $(2g - 1) + (g + 5)$
    $3g + 4$

13. $(z^2 + 4z + 3) + (z^2 - 4z - 3)$
    $2z^2$

14. $(3a^2 + a + 1) - (a^2 + a - 1)$
    $2a^2 + 2$

15. $(b^2 - 2b + 1) + (3b^2 + 4b - 2)$
    $4b^2 + 2b - 1$

16. $(3d^2 + 3d - 5) - (d^2 - 2d + 1)$
    $2d^2 + 5d - 6$