

SKILL

Skills Readiness**65****Special Products of Binomials**

Reminder: An expression squared means that expression multiplied by itself.

For example, $(7x)^2 = (7x)(7x) = 49x^2$.

Formulas for Finding Special Products of Binomials

Square of a Sum	Square of a Difference	Difference of Two Squares
$(a + b)^2 = a^2 + 2ab + b^2$	$(a - b)^2 = a^2 - 2ab + b^2$	$(a + b)(a - b) = a^2 - b^2$
Example 1: $(4x + 3)^2$ $a = 4x; b = 3; ab = (4x)(3)$ $a^2 = (4x)^2 = 16x^2$ $ab = 12x$ so $2ab = 24x$ $b^2 = 3^2 = 9$ $(4x + 3)^2 = 16x^2 + 24x + 9$	Example 2: $(5x - 2)^2$ $a = 5x; b = 2; ab = (5x)(2)$ $a^2 = (5x)^2 = 25x^2$ $ab = 10x$ so $2ab = 20x$ $b^2 = 2^2 = 4$ $(5x - 2)^2 = 25x^2 - 20x + 4$	Example 3: $(3x + 8)(3x - 8)$ $a = 3x$ and $b = 8$ $a^2 = (3x)^2 = 9x^2$ $b^2 = 8^2 = 64$ $(3x + 8)(3x - 8) = 9x^2 - 64$

Practice on Your Own**Multiply.**

1. $(7x + 1)^2$

3. $(3p - 5)^2$

5. $(5y + 1)(5y - 1)$

7. $(4b - 7)(4b + 7)$

9. $(-a + 8)(-a - 8)$

2. $(w + 6)(w - 6)$

4. $(m + 9)^2$

6. $(d - 2)^2$

8. $(10 - 3h)(10 + 3h)$

10. $(-2z + 1)(-2z - 1)$

Check**Multiply.**

11. $(6x + 4)^2$

13. $(u + 3)(u - 3)$

15. $(y + 7)^2$

12. $(2t - 1)^2$

14. $(3h + 5)(3h - 5)$

16. $(-q + 6)(-q - 6)$
