

LESSON **12.2** Skills Practice

Name _____ Date _____

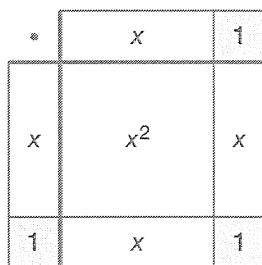
They're Multiplying—Like Polynomials!
Multiplying Polynomials

Problem Set

Determine the product of the binomials using algebra tiles.

1. $x + 1$ and $x + 1$

2. $x + 1$ and $x + 4$



$(x + 1)(x + 1) = x^2 + 2x + 1$

3. $x + 2$ and $x + 2$

4. $x + 3$ and $x + 3$

5. $2x + 1$ and $x + 3$

6. $2x + 3$ and $x + 2$

Determine the product of the binomials using multiplication tables.

7. $3x + 4$ and $2x + 2$

8. $5m + 3$ and $4m + 6$

.	$2x$	2
$3x$	$6x^2$	$6x$
4	$8x$	8

$$\begin{aligned} (3x + 4)(2x + 2) &= 6x^2 + 6x + 8x + 8 \\ &= 6x^2 + 14x + 8 \end{aligned}$$

9. $6t + 5$ and $7t - 5$

10. $4x + 2$ and $4x - 2$

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11. $10w - 1$ and $9w + 8$

12. $y + 12$ and $5y + 15$

Determine the product of the polynomials using the Distributive Property.

13. $2x(x + 6)$

$$\begin{aligned} 2x(x + 6) &= 2x(x) + 2x(6) \\ &= 2x^2 + 12x \end{aligned}$$

14. $4x^2(x + 2)$

15. $7x(x - 5)$

16. $(2x + 1)(x + 8)$

17. $(x + 3)(x^2 - 1)$

18. $(4x + 4)(5x - 5)$

19. $3x(x^2 + 5x - 1)$

20. $9x(3x^2 - 4x + 2)$

21. $(x + 2)(x^2 + 6x - 1)$

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