

CW# 9.4 Special Products of Polynomials

goals	1.
key words	none
journal	<p>Special Product Patterns</p> <p>1. Sum and Difference Pattern $(a-b)(a+b) = a^2 - b^2$</p> <p>2. Square of a Binomial Pattern $(a-b)^2 = a^2 - ab + b^2$ $(a+b)^2 = a^2 + ab + b^2$</p>
examples	<p><u>#1 Use the Sum and Difference Pattern</u></p> <p>Find the product $(5t-2)(5t+2)$</p> $= 25t^2 - 10t - 10t - 4$ $= \boxed{25t^2 - 4}$ <p>1. $(n-3)(n+3)$ 2. $(2x-1)(2x+1)$ 3. $(3x+2)(3x-2)$</p> $= n^2 + 3n - 3n - 9$ $= \boxed{n^2 - 9}$ $= 4x^2 + 2x - 2x - 1$ $= \boxed{4x^2 - 1}$ $= 9x^2 - 6x + 6x - 4$ $= \boxed{9x^2 - 4}$ <p><u>#2 Use the Square of a Binomial Pattern</u></p> <p>Find the product.</p> <p>a. $(3n+4)^2 = (3n+4)(3n+4)$ b. $(2x-7y)^2 = (2x-7y)(2x-7y)$</p> $= 9n^2 + 12n + 12n + 16$ $= \boxed{9n^2 + 24n + 16}$ $= 4x^2 - 14xy - 14xy + 49y^2$ $= \boxed{4x^2 - 28xy + 49y^2}$ <p>1. $(a-7)^2 = (a-7)(a-7)$ 2. $(2x+1)^2 = (2x+1)(2x+1)$ 3. $(3a-4)^2 = (3a-4)(3a-4)$</p> $= a^2 - 7a - 7a + 49$ $= \boxed{a^2 - 14a + 49}$ $= 4x^2 + 2x + 2x + 1$ $= \boxed{4x^2 + 4x + 1}$ $= 9a^2 - 12a - 12a + 16$ $= \boxed{9a^2 - 24a + 16}$

Why Did the Sports Announcer Say: "Ohi Ohi Ohi Ohi"?

Operations With Polynomials:
Special Products of Binomials

9 E $(n + 3)(n - 3)$

15 I $(n + 12)(n - 12)$

13 N $(2n + 9)(2n - 9)$

29 Y $(4n + 1)(4n - 1)$

12 H $(3n + 10)(3n - 10)$

5 A $(8 + n)(8 - n)$

20 O $(n^2 + 5)(n^2 - 5)$

12 I $(2x + 3y)(2x - 3y)$

32 O $(5x - y)(5x + y)$

6 S $(7x + 4y)(7x - 4y)$

14 T $(6x - 11y)(6x + 11y)$

2 E $(x^2 + 2y)(x^2 - 2y)$

21 C $(10x - y^3)(10x + y^3)$

10 A $(3x^3 + 8y^2)(3x^3 - 8y^2)$

13 4n² - 81

3 4n² - 25

17 9n² - 100

9 n² - 9

29 16n² - 1

20 n⁴ - 25

25 n² - 144

15 9n² - 81

5 64 - n²

26 100x² - y⁶

6 49x² - 16y²

29 x⁴ - 4y⁶

10 9x⁶ - 64y⁴

32 25x² - y²

16 36x² - 121y²

8 49x² - 9y²

12 4x² - 9y²

2 x⁴ - 4y²

B (k + 5)²

G (k - 8)²

H (k + 15)²

M (3k + 4)²

W (9k - 2)²

E (8 + 5k)²

L (1 - 7k)²

Y (2a + 5b)²

R (a - 6b)²

S (10a - 3b)²

P (4a + 15b)²

D (8a - 8b)²

M (9a² + b²)²

L (7a² - 4b)²

7 81k² - 24k + 4

18 64 + 80k + 25k²

14 k² - 16k + 64

33 1 - 14k + 49k²

23 9k² + 24k + 16

31 k² + 10k + 25

15 64 + 60k + 25k²

1 k² + 30k + 225

4 81k² - 36k + 4

8 a² - 12ab + 36b²

11 64a² - 128ab + 64b²

21 49a⁴ - 56a²b + 16b²

22 4a² + 20ab + 25b²

19 100a² - 120ab + 9b²

28 100a² - 60 + 9b²

27 64a² - 32 + 64b²

30 81a⁴ + 18a²b² + b⁴

24 16a² + 120ab + 225b²

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
A	E	E	W	A	S	S	R	E	A	D	I	N	G	B	H	E	E	B	O	L	Y	M	P	I	C	B	S	Y	M	O	L	