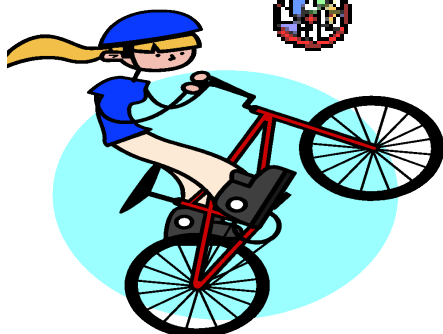


Polynomials

"many" "terms"



Monomial 1 term



Binomial 2 terms



Trinomial 3 terms

Terms are separated by a "+" or a "-" sign.



$$7x + 8y - 3z \rightarrow 3 \text{ terms}$$

$$(\underline{7}x)(\underline{8}y)$$

$$= 56xy \rightarrow 1 \text{ term}$$



How many terms?

$$\underline{4x} - \underline{5y} + \underline{q} \rightarrow \underline{\underline{3 \text{ terms}}}$$

$$5(x-3y) \rightarrow 5x - 15y \rightarrow \underline{\underline{2 \text{ terms}}}$$

$$\frac{3x-4}{5} \rightarrow \frac{3x}{5} - \frac{4}{5} \rightarrow \underline{\underline{2 \text{ terms}}}$$

Bonus: How many terms?

$$\underline{3x} + \underline{4y} - \underline{5x} - \underline{2y} + \underline{x}$$

$$\begin{aligned} &= \underline{-x} + \underline{2y} \\ &= 2y - x \end{aligned} \left. \vphantom{\begin{aligned} &= \underline{-x} + \underline{2y} \\ &= 2y - x \end{aligned}} \right\} 2 \text{ terms}$$

Simplify:

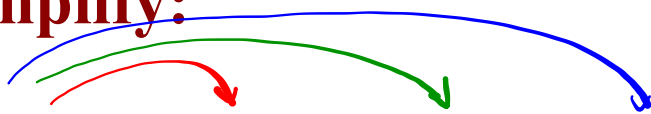
$$\begin{aligned} & \underline{2x} - \underline{7} + \underline{3x^2} - \underline{5x} - \underline{2} - \underline{2x^2} \\ & = \underline{x^2} - \underline{3x} - \underline{9} \end{aligned}$$

Simplify

$$4mn(2m - 2n - 1)$$

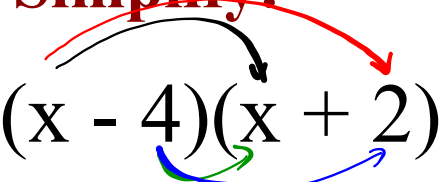
$$= \underline{8m^2n} - \underline{8mn^2} - \underline{4mn}$$

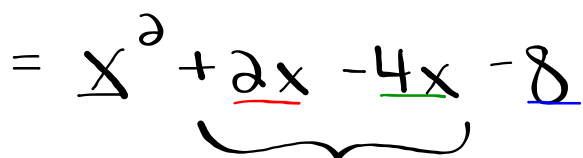
Simplify:


$$5x^2y^3(2x^3y^2z + 3xy - 1)$$

$$= \underline{10x^5y^5z} + \underline{15x^3y^4} - \underline{5x^2y^3}$$

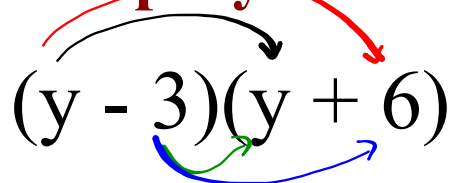
Simplify:

$$(x - 4)(x + 2)$$


$$= x^2 + \underline{2x} - \underline{4x} - \underline{8}$$


$$= x^2 - \underline{2x} - 8$$

Simplify:

$$(y - 3)(y + 6)$$


$$= y^2 + \underline{6y} - \underline{3y} - \underline{18}$$

$$= y^2 + \underline{3y} - 18$$

- First
- Outside
- Inside
- Last


Simplify:

$$(w - 5)(w + 7)$$

$$= \underline{w^2} + \underline{7w} - \underline{5w} - \underline{35}$$

$$= w^2 + \underline{2w} - 35$$

Simplify:


$$3n^4(5m^3n - 10m^2n^2)$$

$$= \underline{15m^3n^5} - \underline{30m^2n^6}$$

Simplify:

$$(x + 4)(x - 3)$$

$$= \underline{x^2} - \underline{3x} + \underline{4x} - \underline{12}$$

$$= x^2 + \underline{x} - 12$$

Simplify:

$$\underbrace{4x(2x + 1)} - \underbrace{2x(3x - 3)}$$

$$= \underline{8x^2} + \underline{4x} - \underline{6x^2} + \underline{6x}$$

$$= \underline{2x^2} + \underline{10x}$$

Ultimate Question

$$(2x - 2)(3x^2 - 4x + 1)$$

$$= \underline{6x^3} - \underline{8x^2} + \underline{2x} - \underline{6x^2} + \underline{8x} - \underline{2}$$

$$= \underline{6x^3} - \underline{14x^2} + \underline{10x} - \underline{2}$$

Unit #1 - Day#1

Multiplying Polynomials

Find each product.

- $7(7b+4) = 49b + 28$
- $5v^4(2v^2+4v+8) = 10v^6 + 20v^5 + 40v^4$
- $3x^2(5x^2+6x-6) = 15x^4 + 18x^3 - 18x^2$
- $6m^2(6m^2+8mn+5n^2) = 36m^4 + 48m^3n + 30m^2n^2$
- $(8a-2)(8a-6) = 64a^2 - 48a - 16a + 12 = 64a^2 - 64a + 12$
- $(2k+3)(7k+7) = 14k^2 + 14k + 21k + 21 = 14k^2 + 35k + 21$
- $(5p-3)(p-1) = 5p^2 - 5p - 3p + 3 = 5p^2 - 8p + 3$
- $-2x(-x^2+4xy-5y^2) = 2x^3 + 8x^2y + 10xy^2$
- $2u(-2u^2+5uv-8v^2) = -4u^3 + 10u^2v - 16uv^2$
- $4y(7x+7y) = 28xy + 28y^2$
- $(7r-4)(5r+1) = 35r^2 + 7r - 20r - 4 = 35r^2 - 13r - 4$
- $(7x+2)(5x-3) = 35x^2 - 21x + 10x - 6 = 35x^2 - 11x - 6$
- $(4n-2)(2n-8) = 8n^2 - 22n - 4n + 16 = 8n^2 - 36n + 16$
- $(6b-5)(8b-4) = 48b^2 - 24b - 40b + 20 = 48b^2 - 64b + 20$
- $(8v+1)(6v+8) = 48v^2 + 64v + 6v + 8 = 48v^2 + 70v + 8$
- $(3x-2)(5x+4) = 15x^2 + 12x - 10x - 8 = 15x^2 + 2x - 8$