



Multiplying a Monomial by a Polynomial

Video Notes

[Video Link](#)

Multiplying a Monomial by a Polynomial

Required background knowledge:

- how to multiply monomials

Multiply:

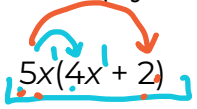
$$\underline{3(2x + 9)}$$

$$\begin{array}{r} 2x + 9. \\ 2x + 9. \\ + 2x + 9. \\ \hline 6x + 27 \end{array}$$

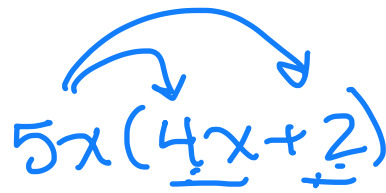
Distributive Property →
multiply the monomial
through to every term
in the brackets/ \rightarrow
parentheses $+/-$

$$\begin{array}{r} 3(2x + 9) \\ \hline 6x + 27 \end{array}$$

Multiply:

$$5x(4x + 2)$$


$$20x^2 + 10x$$

$$5x(4x + 2)$$


~~NO!!~~

$$\underline{20x} + \underline{10x}$$

Multiply:

$$-4x(2x^2 - 9x - 15)$$

$$-4x(2x^2 - 9x - 15)$$

$$-8x^3 + 36x^2 + 60x$$

Common
Mistake:

36x

No!

Multiply:

$$4x^2(5x + 3) - 6x(2x^2 - 8)$$

A handwritten diagram showing the distribution of terms. The expression $4x^2(5x + 3) - 6x(2x^2 - 8)$ is written with colored highlights: $4x^2$ is blue, $(5x + 3)$ is pink, $-6x$ is cyan, and $(2x^2 - 8)$ is yellow. Blue arrows point from $4x^2$ to $5x$ and 3 . Cyan arrows point from $-6x$ to $2x^2$ and -8 .

$$20x^3 + 12x^2 - 12x^3 + 48x$$

$$8x^3 + 12x^2 + 48x$$