<u>monomial</u>: 1 term expression

<u>binomial</u>: 2 term expression

<u>polynomial</u>: 2 or more term expression

<u>Factor the polynomial</u> $\Rightarrow$ write a polynomial as a <u>product</u>
(answer when you multiply) of factors.

<u>Ex. 1</u>

$3g + 6$
$\downarrow \quad \downarrow$
$\div 3 \quad \div 3$

$3(1g + 2)$

FIND the GCF

$3g$
$1 \cdot \text{\textcircled{3}}$

6
$1 \cdot 6$
$2 \cdot \text{\textcircled{3}}$

* check your answer *

$3(g + 2)$
$= 3g + 6 \quad \checkmark$

<u>Ex. #2</u>

$8d + 12d^2$

$\downarrow \div 4 \qquad \downarrow \div 4$

$$4\left(2d^1 + 3d^2\right) = 4d\left(2 + 3d\right)$$

check your answer

$$4d^1\left(2 + 3d^1\right)$$
$$= 8d + 12d^2 \checkmark$$

Ex #3

Factor the trinomial $18z^2 - 12z + 6$. Verify that the factors are correct.

$18z^2$	$12z$	6
1 - 18	1 · 12	1 · ⑥
2 · 9	2 · ⑥	3 · 2
3 · ⑥	3 · 4	

GCF : 6

$$\frac{18z^2}{\downarrow} - \frac{12z}{\downarrow} + \frac{6}{\downarrow}$$
$$\div 6 \qquad \div 6 \qquad \div 6$$

$$6\left(3z^2 - 2z + 1\right)$$

* Check your answer #

$$6(3z^2 - 2z + 1)$$
$$= 18z^2 - 12z + 6 \quad \checkmark$$

Ex #4

Factor $-20c^4d - 30c^3d^2 - 25cd$ GCF = 5

$\div 5$ $\div 5$ $\div 5$

$$= 5(-4\underline{c^4d} - 6\underline{c^3d^2} - 5\underline{cd})$$

can only factor
$\underline{c}$ $\underline{d}$ variable

$$= 5cd(-4c^3 - 6c^2d - 5)$$