lulumath

Determining Greatest Common Factors (GCF) of Polynomial Expressions
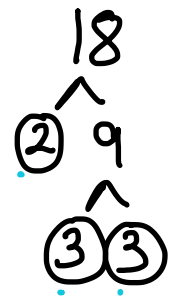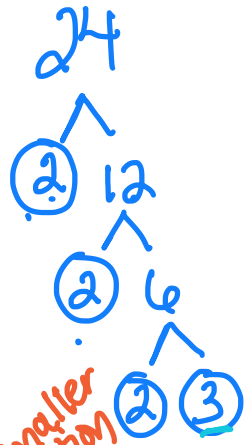
Video Notes

Video Link

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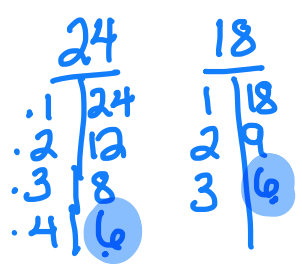Use prime factors to determine the GCF of the following terms.

$24x^2y^3, 18xy^4z$

24

② 12

② 6

② ③ ← smaller option

18

② 9

③ ③

$24x^2y^3 =$ 2·2·2·3·x·x·y·y·y ←

$18xy^4z =$ 2·3·3·x·y·y·y·y·z ←

look @ exponents + choose the smaller option.

∴ GCF $= 2·3·x·y^3$

$= 6xy^3$

	24
.1	24
.2	12
.3	8
.4	6

	18
1	18
2	9
3	6

Find the GCF of the following terms:

$21a^3b^2c, 14bc$

$21a^3b^2c$

$14bc$ ← no a not in common

$$21$$
$$\begin{array}{c|c} 1 & 21 \\ 3 & 7 \end{array}$$

$$14$$
$$\begin{array}{c|c} 1 & 14 \\ 2 & 7 \end{array}$$

$GCF = 7b^1c^1$

$GCF = 7bc$

Find the GCF of the following terms:

$16uvw$, $6w$, $9vw^2$

$16uvw$

$6w$

$9vw^2$

$$\frac{16}{\begin{array}{c|c} 1 & 16 \\ 2 & 8 \\ 4 & 4 \end{array}}$$

$$\frac{6}{\begin{array}{c|c} 1 & 6 \\ 2 & 3 \end{array}}$$

$$\frac{9}{\begin{array}{c|c} 1 & 9 \\ 3 & 3 \end{array}}$$

$GCF = 1w$

$$\boxed{GCF = w}$$