

Multiplying:

Type 1 (no +/- signs)

$$\frac{5x^2}{10x} \cdot \frac{2x^3}{15x^2} \xrightarrow{\text{MULTIPLY}} \frac{10x^5}{150x^3} \xrightarrow{\text{REDUCE}} \frac{x^2}{15}$$

$$\xrightarrow{\text{① REDUCE}} \frac{1x}{2} \cdot \frac{2x}{15} \xrightarrow{\text{MULTIPLY}} \frac{2x^2}{30} \xrightarrow{\text{REDUCE}} \frac{x^2}{15}$$

Type 2 (yes +/- signs)

$$\frac{x^2-1}{2x+4} \cdot \frac{6x+12}{x^2+4x-5}$$

① FACTOR

$$\frac{(x+1)(x-1)}{2(x+2)} \cdot \frac{3(x+2)}{(x+5)(x-1)}$$

DOTS (x+1) TRI GCF TRI

② CANCEL

$$\frac{3(x+1)}{(x+5)}$$

Dividing:

Type 1 (no +/- signs)

$$\frac{3x^4}{8x} \div \frac{9x^4}{2}$$

REDUCE ↓ CHANGE ↓ FLIP!

$$\frac{3x^3}{8} \cdot \frac{2}{9x^4} \xrightarrow{\text{MULTIPLY}} \frac{6x^3}{72x^4} \xrightarrow{\text{REDUCE}} \frac{1}{12x}$$

Type 2 (yes +/- signs)

$$\frac{5x}{3x-12} \div \frac{x^2-2x}{x^2-6x+8}$$

FACTOR ↓ CHANGE ↓ FLIP!

$$\frac{5x}{3(x-4)} \cdot \frac{x^2-6x+8}{x^2-2x}$$

FACTOR

$$\frac{5x}{3(x-4)} \cdot \frac{(x-2)(x-4)}{x(x-2)}$$

TRI GCF

CANCEL

$$\frac{5}{3}$$