Dividing Polynomials

Monday, October 21, 2019 1:03 PM

$2x(3x+5) = 6x^2 + 10x$

$$\frac{6x^2+10x}{2x} = \frac{6x^2}{2x} + \frac{10x}{2x}$$

$$= 3x + 5$$

$$\frac{12x^2-8x+20}{4} = \frac{12x^2}{4} - \frac{8x}{4} + \frac{20}{4}$$

$$= 3x^2 - 2x + 5$$

Try: Divide:

① $\frac{20x^3-15x^2}{5x} = \frac{20x^3}{5x^1} - \frac{15x^2}{5x} = 4x^2 - 3x$

② $\frac{16x^4-20x^3+12x^2}{4x} = \frac{16x^4}{4x} - \frac{20x^3}{4x} + \frac{12x^2}{4x}$

$$= 4x^3 - 5x^2 + 3x$$

③ $\frac{15x^2y - 12xy + 21xy^3}{-3xy}$

$$= -5x + 4 - 7y^2$$

Factor: is a number that divides evenly into the original number

Factors of 12 are 1, 2, 3, 4, 6, 12

Factor 12

3×4

$3 \times 2 \times 2$ prime factorization

Greatest common factor (GCF)

Find the GCF of 12 and 18 → 6

↳ The biggest number that divides evenly into both numbers.

Find the GCF of $10x^2$ and $15x^3$

$\frac{x^2}{x^2} = 1$ $\frac{x^3}{x^2} = x$ $5x^2$

Find the GCF of $8x^2y^3$ and $20xy^2$

$4xy^2$

Factor $\frac{2x^2}{2} - \frac{8x}{2} - \frac{10}{2}$

$x^2 - 4x - 5$

① Find GCF(2)
② Divide each term by GCF
③ Write answer

answer $2(x^2 - 4x - 5)$ GCF(what is left)

Factor $\frac{6x^3}{6x} - \frac{12x^2}{6x} + \frac{18x}{6x}$ GCF = $6x$

$6x(x^2 - 2x + 3)$

Try Factor:

① $\frac{24x^4}{12x^2} - \frac{12x^2}{12x^2}$ GCF $12x^2$

$12x^2(2x^2 - 1)$

② $\frac{36x^3}{6x} - \frac{30x^2}{6x} + \frac{12x^1}{6x}$ GCF $= 6x$

$6x(6x^2 - 5x + 2)$

Worksheet #5 Quiz X/÷ tomorrow