

BE-Alg 1

Thursday 12-1-11

① Find the EOL through: ① $(-2, 1), (3, 7)$
② $(-1, 4), (2, -3)$

② Graph: ① $y = \frac{6}{5}x + \frac{17}{5}$

② $y = -\frac{7}{3}x + \frac{5}{3}$

③ Put ① and ② in Standard Form

③ Solve:
$$\begin{cases} -6x + 5y = 17 \\ 7x + 3y = 5 \end{cases}$$

Slight variation on Group to a Power Rule:

$$\left(\frac{a}{b}\right)^n = \frac{a^n}{b^n}$$

$$\text{EX) } \left(\frac{2}{3}\right)^2 = \frac{2^2}{3^2} = \frac{4}{9}$$

$$\text{EX) } \left(\frac{x}{y}\right)^3 = \frac{x^3}{y^3}$$

$$\text{GPR } \left(\frac{ab}{cd}\right)^n = \frac{a^n b^n}{c^n d^n}$$

Division Rule - DR

$$\frac{x^5}{x^2} = \frac{\overset{1}{x} \overset{1}{x} \overset{1}{x} \overset{1}{x} \overset{1}{x}}{\overset{1}{x} \overset{1}{x}} = \left(\frac{x}{x}\right) \left(\frac{x}{x}\right) \frac{xxy}{1} = x^3$$

Shortcut?

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

When dividing powers
WITH SAME base,
Subtract
Exponents, Top
minus the bottom

$$\boxed{\text{DR } \frac{a^m}{a^n} = a^{m-n}}$$

$$\text{(EX) } \frac{2^{16}}{2^{12}} = 2^{16-12} = 2^4 = 2^{16}$$

$$\textcircled{\text{Ex}} \quad \frac{x^7 y^5}{x^3 y^3} = ?$$

$$\boxed{x^4 y^2}$$

$$\textcircled{\text{Ex}} \quad \left(\frac{2x^3}{3x} \right)^2 = ?$$

$$\left(\frac{2x^2}{3} \right)^2 = \boxed{\frac{4x^4}{9}}$$

Use DR First

$$\text{or } \frac{4x^6}{9x^2} = \boxed{\frac{4x^4}{9}} \quad \checkmark \quad \text{Use PPR First}$$

$$\textcircled{\text{Ex}} \quad \left(\frac{x^5 y^2}{xy} \right)^7 = ?$$

$$(x^4 y)^7 = \boxed{x^{28} y^7}$$

• Memorize MR/DR, PPR/GPR • Pg 421 #4-6, 14-19