REMEMBER

① $\frac{4}{7} \times \frac{14}{3} = \frac{56}{21} = \frac{8}{3}$

OR

$\frac{4}{\cancel{7}_{1}} \times \frac{\cancel{14}^{2}}{3} = \frac{8}{3}$

② $\frac{-3}{10} \div \frac{9}{25}$

$= \frac{\cancel{-3}^{-1}}{\cancel{10}_{2}} \times \frac{\cancel{25}^{5}}{\cancel{9}_{3}} = \frac{-5}{6}$

③ $\frac{9y}{4x} \cdot \frac{7y}{x^5} = \frac{63y^2}{4x^6}$

④ $\frac{3}{x^3} \div \frac{5}{x^5} = \frac{3}{x^3} \times \frac{x^5}{5} = \frac{3x^5}{5x^3} = \frac{3}{5}x^2$

Multiply Rational Expressions

ex. 1 $\frac{2a}{9} \cdot \frac{3b^2}{5a^2}$ non-perm. $a \neq 0$

$\frac{2}{\cancel{9}_{3}} \cdot \frac{\cancel{3}^{1}}{5}$ $\quad \frac{ab^2}{a^{\cancel{2}^{1}}}$ ONLY positive exponents

$\frac{2}{15}$ $\quad \frac{b^2}{a}$

$\frac{2b^2}{15a}$

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

$= \frac{x^2}{3x \cdot 4x} \cdot \frac{5(x-4)}{} = \frac{5(x-4)}{12}$

Divide Rational Expressions

3. $\frac{7n^3}{4} \div \frac{(7n)^2}{-12}$ $(7n)^2 \neq 0$ N.P.V.

$n \neq 0$

$= \frac{7n^3}{4} \times \frac{-12}{(7n)^2}$

$= \frac{7n^3 \cdot (-3)}{49n^2}$

$= \frac{-3n}{7}$

4. $\frac{5(x-3)}{2x} \div \frac{10(x-3)}{3x(x+5)}$ FACTORED FORM

$= \frac{5(x-3)}{2x} \cdot \frac{3x(x+5)}{15x(x+5)}$

$$= \frac{-5(x-3)}{2x} \times \frac{3x(x+5)}{10(x-3)} \Rightarrow \frac{-15x(x+5)}{20x}$$

$$= \frac{3(x+5)}{4}$$

5. $\dfrac{x^2+9x+20}{2x^2+6x-8} \times \dfrac{x^2-1}{3x+15}$

tri, GCF tri; diff sq., GCF

FACTOR!!

$$= \frac{(x+4)(x+5)}{2(x^2+3x-4)} \times \frac{(x-1)(x+1)}{3(x+5)}$$

$$2(x-1)(x+4)$$

$$= \frac{x+1}{6}$$

6. $\dfrac{x-2}{3x-21} \div \dfrac{3x^2-12}{3x^2-12x-63}$

GCF, NPV

$3x^2-12$: GCF $3(x^2-4)$ diff sq.

$3x^2-12x-63$: GCF $3(x^2-4x-21)$ TRI $-\frac{7}{3}$

$$= \frac{x-2}{3(x-7)} \cdot \frac{3(x-7)(x+3)}{3(x-2)(x+2)}$$

$$= \frac{(x+3)}{3(x+2)}$$

NPV

$x-7 \neq 0$

$x \neq 7$

$x \pm 2 \neq 0$

$x \neq \pm 2$

P 536 # 4-8 (min 3 each)
11a, 12(2)

$x+3 \neq 0$

$x \neq -3$