PART 1 Dividing Rational Expressions

$$2(x+1)(x-5)$$

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

$$2(x^2-4)$$

$$2(x^2-8)$$

$$2(x^2-8)$$

$$3 \frac{x^2 - 8x + 15}{x^2 + 4x} \div (x^2 - x - 20)$$

$$(x-5)(x-3)$$
 1 $(x-5)(x+4)$

$$(x-5)(x-3)$$
 $(x-3)$ $(x-3)$ $(x+4)(x+4)$

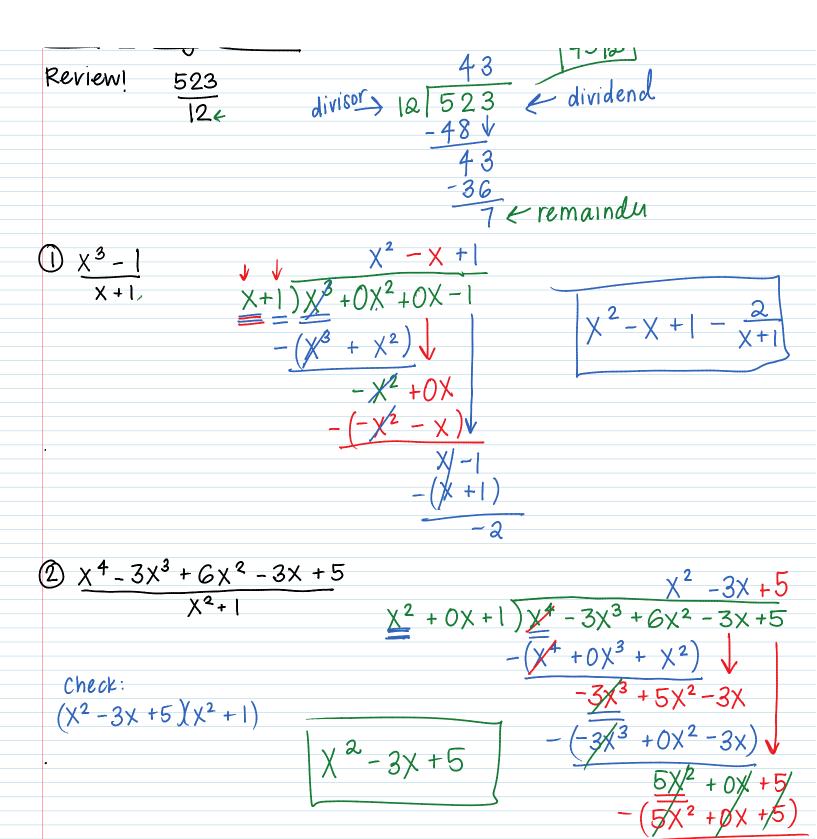
$$= \underbrace{X-3}_{X(X^2+8X+16)} = \underbrace{\frac{X-3}{X^3+8X^2+16X}}_{X^3+8X^2+16X}$$

2 (X+1)(X-5)

 $= \frac{\chi^2 + 3\chi}{2\chi^2 - 8\chi - 10}$

PART 2: Long DIVISION

Reviewl 523



PART 3: Synthetic Division

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CAN ONLY BE DONE WHEN DIVIDING BY A LINEAR POLYNOMIAL!

$$x^3 - 4x^2 + 0x + 1$$

$$\frac{1}{100} \frac{\chi^3 - 4\chi^2 + 1}{\chi - 2}$$

$$\begin{array}{c} x - 2 = 0 \\ + 2 + 2 \\ \hline x = 2 \end{array}$$

$$X+1=0$$

$$X=-1$$

$$3 \frac{2 \times^2 - 3 \times + 1}{\times -2}$$

$$\chi - \lambda = 0$$

 $\chi = \lambda$

$$2x + 1 + \frac{3}{x-2}$$