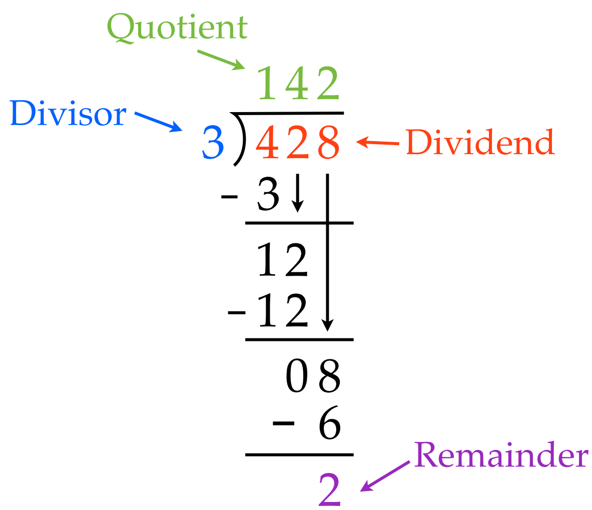
Dividing Polynomials Using Long Division

Name ____________________

Date ____________ Period ______

Long Division

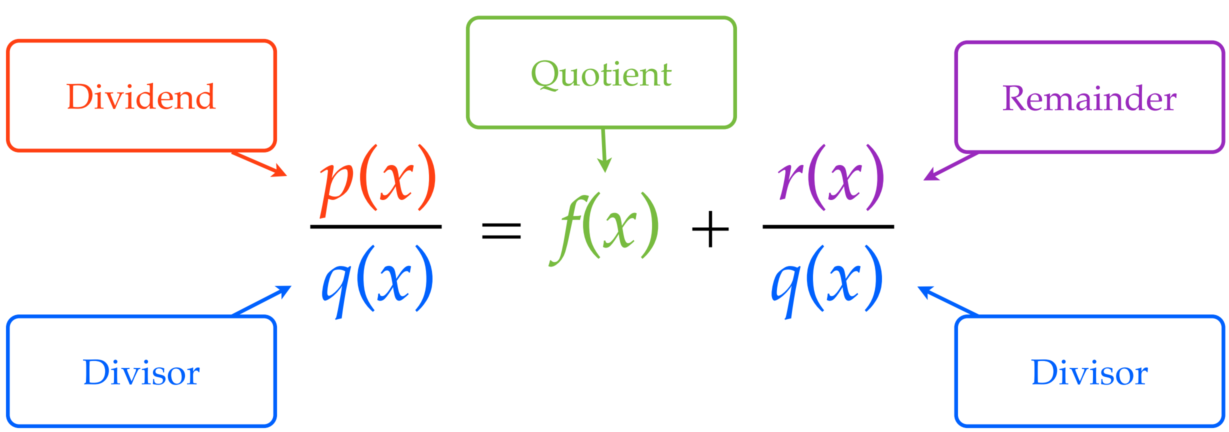


$$\frac{428}{3} = 142 + \frac{2}{3}$$

$$3 \times 142 + 2 = 428$$

Divisor × Quotient + Remainder = Dividend

Given $p(x)$ and $q(x)$ are polynomial functions, with degree of $q(x)$ < degree of $p(x)$ then,



Given $p(x)$ and $q(x)$ are polynomial functions, with degree of $q(x)$ < degree of $p(x)$ then,

$$\overset{\text{Divisor}}{q(x)} \cdot \overset{\text{Quotient}}{f(x)} + \overset{\text{Remainder}}{r(x)} = \overset{\text{Dividend}}{p(x)}$$

Divisor × Quotient + Remainder = Dividend

Long division with polynomials

$(3x^3 + x^2 - 5) \div (x + 4)$

Long division with polynomials

$(x^4 + 6x^3 - 7x - 14) \div (x - 2)$

Long division with polynomials

$(6x^2 - 7x - 5) \div (3x - 5)$