Vocabulary and Practice

$$12\overline{)29436}$$

(Quotient)

$$5$$

(Divisor) $5\overline{)27}$ (Dividend)

$$25$$

$$2$$ (Reminder)

Division Algorithm: $\left(Quotient\right)\left(Divisor\right)+\mathrm{Re}mainder=Dividend$

LONG DIVISION	**LONG DIVISION**

$$3x-2\overline{)27x^3+9x^2-3x-10}$$

$$\left(x^3-2x^2+6x-6\right)\div\left(x-3\right)$$

There is NO REMAINDER so ….

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_____

Division Algorithm:

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There is a REMAINDER so ….

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Division Algorithm:

_____

LONG DIVISION (Missing Term)

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

There is NO REMAINDER so ….

_____

_____

Division Algorithm:

_____

LONG DIVISION Finishing with the DIVISION ALGORITHM

$$2x - 1 \overline{\smash{)}2x^3 - 5x^2 - 28x + 15}$$

There is NO REMAINDER so ….

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Division Algorithm:

_____

SYNTHETIC DIVISION

Divide $(3x^4 + 12x^3 - 5x^2 - 18x + 8) \div (x + 4)$

There is NO REMAINDER so ….

_____

_____

Division Algorithm:

SYNTHETIC DIVISION
(Missing Term)

$$\frac{3x^4 - 12x + 15}{x + 1}$$

___| _____

There is NO REMAINDER so ….

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_____

Division Algorithm:

_____

Not to Scale

The total volume of the popcorn box can be written as…

$$2x^3 + 15x^2 + 28x + 15$$

Given that, what is the width of the box?

x +5

2x + 3   width

When to use Long Division or Synthetic Division

To use Synthetic Division:

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

coefficient should be 1

exponent must be 1

MathBits
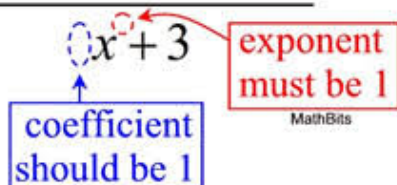
EVERYTHING ELSE - JUST USE LONG DIVISION