

## **Math Virtual Learning**

# Algebra 2A

Polynomial Long Division, Day 2

April 16, 2020



#### Lesson:

Polynomial Long Division

#### **Learning Target:**

LT D2 I can perform polynomial division (long and synthetic) and apply the remainder theorem.

## **Objective:**

Students will be able to long divide polynomials with a divisor that has a degree greater then 1.

## Warm up

Today for the warm up, review and practice the skills we learned last week.

1. 
$$(2x^3 - x^4 + 3x - 12) + (21x^4 + 5x^2 - 11x - 8)$$

- 2.  $(4x-11)(2x^2+6)$
- 3.  $(8x^2 + 6x + 3) \div (4x + 1)$

## Warm Up

#### **Check Your Answers**

1. 
$$20x^4 + 2x^3 + 5x^2 - 8x - 20$$

2. 
$$8x^3 - 22x^2 + 24x - 66$$

3. 
$$2x+1+\frac{2}{4x+1}$$

### Lesson

Today we will be focusing on long dividing with polynomials with degrees greater than 2. The process will be the same as what we did yesterday. If you need to, watch the review video from yesterday. Then watch today's and complete the 4 practice problems.

Review of Yesterday: Intro To Long Dividing of Polynomials

Today's Video: Dividing Polynomials with Remainders

## **Practice**

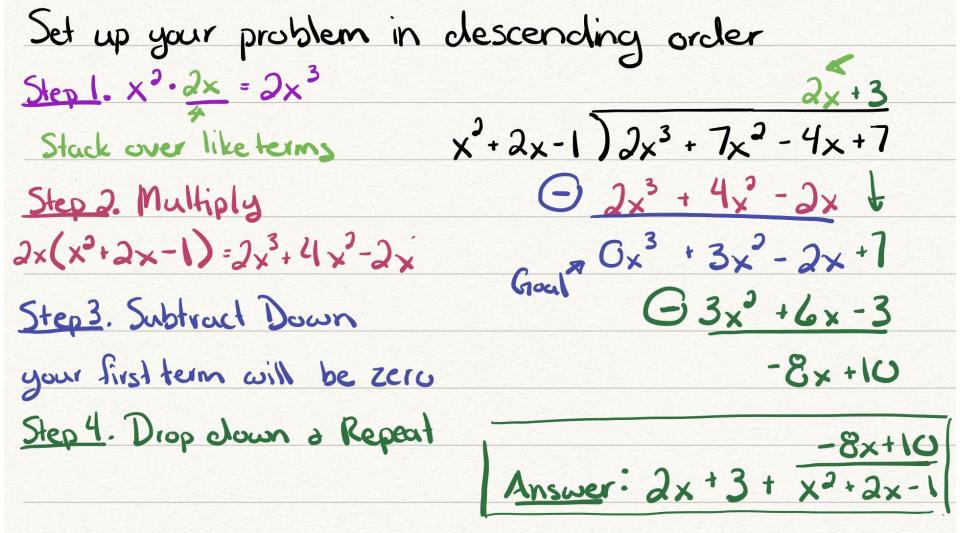
$$\frac{2x^3 - 4x + 7x^2 + 7}{x^2 + 2x - 1}$$

$$\frac{3x^4 + 9x^3 - 5x^2 - 6x + 2}{3x^2 - 2}$$

$$\frac{2x^4 - 5x^3 + 2x^2 + 5x - 10}{x - 2}$$

$$\frac{12x^3 - 11x^2 + 9x + 18}{4x + 3}$$

Here are four problems for you to try. Check your answers on the next slides when you have first tried the problem on your own.



 $3x^{2} \cdot -1 = -3x^{2}$ Answer:  $x^{2} + 3x - 1$ 

Answer:  $2 \times ^3 - \times ^2 + 5$ 

$$\frac{2004}{4x \cdot 3x^{3} = 10x^{3}} \qquad \frac{4x + 3}{10x^{3} - 11x^{2} + 9x + 18}$$

$$\frac{4x \cdot 3x^{3} = 10x^{3}}{-20x^{3} + 9x^{3}} \qquad \frac{4x \cdot 18}{-20x^{3} + 9x^{3}}$$

$$\frac{4x \cdot -5x = -20x^{3}}{-20x^{3} - 15x} \qquad \frac{4x \cdot$$

## **Additional Practice**

**Division of Polynomials** 

Khan Academy