

NAME: _____ QUARTER: _____

GR. & SEC - _____ DATE: _____

REMEDIAL CLASS ACTIVITY # 4**Synthetic Division, Remainder Theorem and Factor Theorem****DIRECTION:** Read and understand the questions carefully. Check the box that corresponds to your answer.

1. In the division algorithm,
- $\frac{P(x)}{d(x)} = Q(x) + \frac{r(x)}{d(x)}$
- . What is the divisor?

<input type="checkbox"/>	P(x)	<input type="checkbox"/>	r(x)
<input type="checkbox"/>	d(x)	<input type="checkbox"/>	Q(x)

2. In the division algorithm,
- $\frac{P(x)}{d(x)} = Q(x) + \frac{r(x)}{d(x)}$
- . What is the dividend?

<input type="checkbox"/>	P(x)	<input type="checkbox"/>	r(x)
<input type="checkbox"/>	d(x)	<input type="checkbox"/>	Q(x)

3. Divide:
- $x^3 + 2x^2 - 5x - 10$
- by
- $x^2 - 5$
- .

<input type="checkbox"/>	$x^2 - 3x + 10$	<input type="checkbox"/>	$x + 2$
<input type="checkbox"/>	$x^2 + 7x + 30$	<input type="checkbox"/>	$x - 2$

4. Find the remainder when
- $x^3 - 2x^2 + 4x - 3$
- is divided by
- $x + 2$
- .

<input type="checkbox"/>	27	<input type="checkbox"/>	-5
<input type="checkbox"/>	5	<input type="checkbox"/>	-27

5. If
- $x^3 - 2x^2 - 5x + 6$
- is divided by
- $x + 1$
- , the remainder is zero.

<input type="checkbox"/>	True	<input type="checkbox"/>	Maybe
<input type="checkbox"/>	False	<input type="checkbox"/>	Cannot be determine

6. Which statement is TRUE?

<input type="checkbox"/>	The quotient multiplied by the dividend plus the remainder is equal to the divisor.
<input type="checkbox"/>	If $x^2 + 5x + 7$ is divided by $x + 2$, the remainder is 1.
<input type="checkbox"/>	If the remainder is 0, then the dividend is a factor of the divisor.
<input type="checkbox"/>	The remainder is a factor of the dividend if the quotient is 0.

7. Which is the missing factor in the equation:
- $x^2 - 4 = (x - 2)(\quad)$
- ?

<input type="checkbox"/>	$x - 2$	<input type="checkbox"/>	$x + 4$
<input type="checkbox"/>	$x + 2$	<input type="checkbox"/>	$x - 4$

8. Based on synthetic division below, which polynomial is the dividend?

2	2	0	0	-1	-36
		4	8	16	30
	2	4	8	15	-6

<input type="checkbox"/>	$x^3 - x - 36$	<input type="checkbox"/>	$x^4 - x^2 - 36$
<input type="checkbox"/>	$x^4 - x - 36$	<input type="checkbox"/>	$x^3 + x^2 - +36$

9. Based on the synthetic division in #8, what is the remainder?

<input type="checkbox"/>	0	<input type="checkbox"/>	-6
<input type="checkbox"/>	-1	<input type="checkbox"/>	6

10. If a sixth-degree polynomial is divided by a second-degree polynomial, what is the degree of the quotient?

<input type="checkbox"/>	1	<input type="checkbox"/>	3
<input type="checkbox"/>	2	<input type="checkbox"/>	4

REFLECTION:**What have you learned in this activity?**
