

NAME: _____ QUARTER: _____

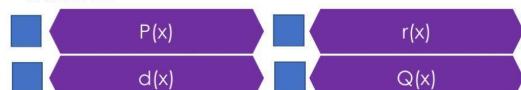
GR. & SEC - _____ DATE: _____

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.

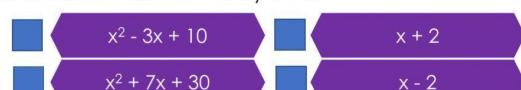
1. In the division algorithm, $\frac{P(x)}{d(x)} = Q(x) + \frac{r(x)}{d(x)}$. What is the divisor?



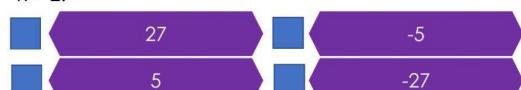
2. In the division algorithm, $\frac{P(x)}{d(x)} = Q(x) + \frac{r(x)}{d(x)}$. What is the dividend?



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



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



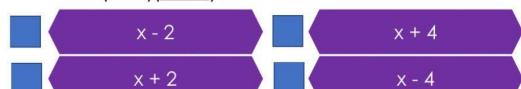
5. If $x^3 - 2x^2 - 5x + 6$ is divided by $x + 1$, the remainder is zero.



6. Which statement is TRUE?

- The quotient multiplied by the dividend plus the remainder is equal to the divisor.
- If $x^2 + 5x + 7$ is divided by $x + 2$, the remainder is 1.
- If the remainder is 0, then the dividend is a factor of the divisor.
- The remainder is a factor of the dividend if the quotient is 0.

7. Which is the missing factor in the equation: $x^2 - 4 = (x - 2)(\underline{\hspace{1cm}})$?



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

$$\begin{array}{r} 2 \\ \hline 2 & 0 & 0 & -1 & -36 \\ & 4 & 8 & 16 & 30 \\ \hline & 2 & 4 & 8 & 15 & -6 \end{array}$$

<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?**