

NAME

QUARTER 1

GRADE & SECTION

DATE

Activity: **Remainder Theorem and Factor Theorem****RECALL****Remainder Theorem**If a polynomial $f(x)$ is divided by $x - c$, then the remainder is $r = f(c)$.**Factor Theorem**A polynomial $f(x)$ has a factor $x - c$, if and only if $f(c) = 0$.

Divide the first polynomial by the second polynomial. Complete the solution to know the remainder then determine if the divisor is a factor or not of the dividend.

1) $x^4 - 2x^3 + x^2 - 14x + 6$ by $x - 3$

$$P(3) = (3)^4 - 2(3)^3 + (3)^2 - 14(3) + 6$$

$$P(\quad) = \quad$$

Since the remainder is $\quad$, then $x - 3$ is $\quad$ of $x^4 - 2x^3 + x^2 - 14x + 6$.

2) $x^4 - 6x^2 - 13x + 13$ by $x - 3$

$$P(\quad) = (\quad)^4 - 6(\quad)^2 - 13(\quad) + 13$$

$$P(\quad) = \quad$$

Since the remainder is $\quad$, then $x - 3$ is $\quad$ of $x^4 - 6x^2 - 13x + 13$.

3) $x^3 + 5x^2 + 4x + 16$ by $x + 5$

$$P(\quad) = (\quad)^3 + 5(\quad)^2 + 4(\quad) + 16$$

$$P(\quad) = \quad$$

Since the remainder is $\quad$, then $x - 3$ is $\quad$ of $x^3 + 5x^2 + 4x + 16$.

4) $x^3 - x^2 - 14x + 24$ by $x + 4$

$$P(\quad) = (\quad)^3 - (\quad)^2 - 14(\quad) + 24$$

$$P(\quad) = \quad$$

Since the remainder is $\quad$, then $x - 3$ is $\quad$ of $x^3 - x^2 - 14x + 24$.

How many attempts? ____.

How well did you do?



Need help!



Just OK!



Splendid

I HAVE TO REMEMBER THAT...