Honors Algebra II

Name_____

LT 8-3: Polynomial Division Day 2: Synthetic Division

Period_____

Use synthetic division to divide the polynomials.

1)
$$(-x^4 - 2x^3 + 3x^2 + 4x - 4) \div (x - 2)$$
 2) $\frac{x^{4-16}}{x+2}$

3)
$$(8v^5 + 32v^4 + 5v + 20) \div (v + 4)$$

4) $\frac{4a^3 + 6a^2 - 8a - 12}{2a - 3}$

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

6)
$$\frac{x^3-1}{x-1}$$
 (Does this look familiar?)

7) Given that $P(x) = x^3 + 9x^2 + 23x + 15$ and (x + 5) is a factor of *P*, completely factor P(x). Then, write *P* in factored form and state the zeros of *P*.

8) Given that $P(x) = 6x^3 + 7x^2 - 1$ and (2x + 1) is a factor of *P*, completely factor P(x). Then, write *P* in factored form and state the zeros of *P*.