1.3 Division of Polynomials

PRACTICE

Directions: Perform the indicated operation.

1)
$$\frac{p^4 + 2p^3 - 6p^2 - p + 24}{p + 32}$$

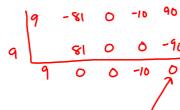
$$2)\frac{6m^3 - 15m^2 - 19m + 37}{m - 3}$$

3)
$$\frac{v^3 - 10v + 9}{v - 1 = 6}$$

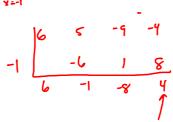
4)
$$\frac{b^4-5b^3-10b+51}{b-5-1}$$

Directions: Determine whether or not the given binomial is a factor of the polynomial. Show work and EXPLAIN why or why

5) Is
$$(v-9)$$
 factor of $(9v^4-81v^3-10v+90)$?



6) is
$$(x + 1)$$
 a factor of $(6x^3 + 5x^2 - 9x - 4)$?



There is no remainder when you divide by (v-9) so therefore it is a factor.

There is a remainder when you divide by (x+1) which means it doesn't divide evenly and IS NOT a factor.

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Directions: Given one factor, factor completely.

8) (k + 4) is a factor of $(3k^3 - 5k^2 - 74k - 24)$

k: 4

9)
$$(v - 1)$$
 is a factor of $(5v^3 - 18v^2 + 7v + 6)$