ALGEBRA II
Chapter 5 section 2
Evaluate and Graph Polynomial Functions
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FOCUS:
How can you graph a polynomial function?

VOCAB:
*Polynomial:*_____

_____

*Polynomial Function:*_____

_____

*Synthetic Substitution:*_____

_____

*End Behavior:*_____

_____

WARM – UP:

Evaluate the expression when x = -4.

1. $x^2 + 5x$_____

2. $-3x^3 - 2x^2 + 10$_____

3. The expression $x^2 - 4$ represents the amount of matting in square inches that is needed to mat a picture. How much matting is needed if x = 6?

_____

NOTES:

Decide whether the function is a polynomial function. If so, write it in standard form and state its degree, type, and leading coefficient.

$f(x) = 6x^{1/2} - 5x$

$g(x) = -8x^5 - 4x^2 + \sqrt{10} + x^4$

$f(x) = x^3 - \frac{4}{5}x^2 - 1$

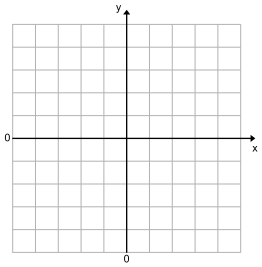
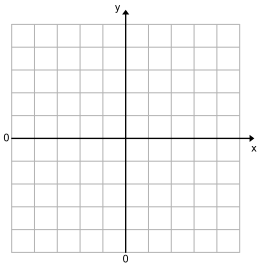
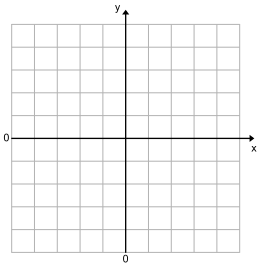
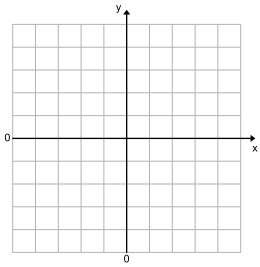
$h(x) = -3x^4 - 9x^{-2} - 4 + x^4$

Use direct substitution to evaluate the equation with the given value of x.

$f(x) = -3x^3 + x^2 - 12x - 5 \quad x = 2$

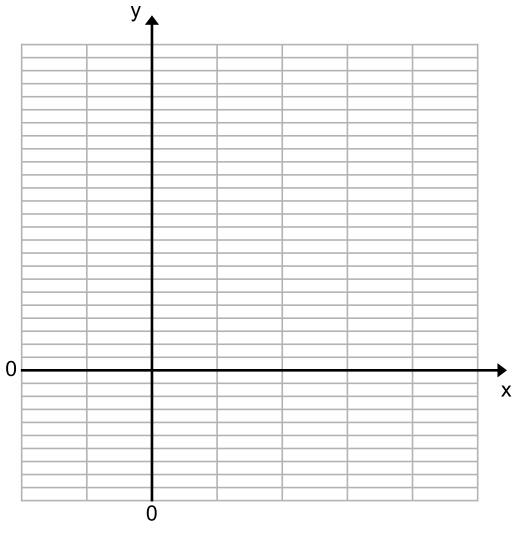
$f(x) = x^4 + 2x^3 + 3x^2 - 7 \quad x = -2$

Use synthetic substitution to evaluate the above two examples.

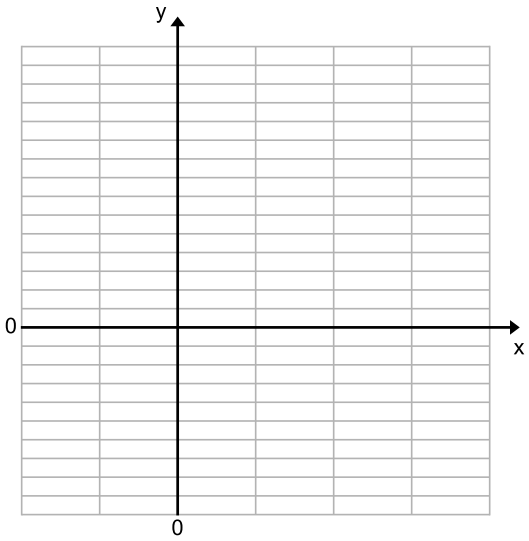





Graph.

$f(x) = -x^4 + 4x^3 - x^2 + 6$



$f(x) = x^3 - 3x^2 + x + 1$



Let's see if you comprehended what we worked on in class…

Try _____ for homework