Activity 3.1: Polynomial Operations & Graphs

A

Name: _____ Partner's name: _____ Date: _____

Directions: Answer each question. Write polynomials in standard form. Problem 8 uses a graph. Graphs are drawn accurately.

Work alone, then compare after each problem. If answers differ, find the mistake together.

1

Multiply: $(x+2)(x^2-3x+1)$.

Answer: _____ Match? ☐ Yes ☐ No

2

Divide x^3-4x^2+x+6 by $(x-2)$. Find the quotient.

Answer: _____ Match? ☐ Yes ☐ No

3

Find the remainder when x^3-2x^2+x-5 is divided by $(x-2)$.

Answer: _____ Match? ☐ Yes ☐ No

4

Factor completely: x^3-4x.

Answer: _____ Match? ☐ Yes ☐ No

5

Find all zeros of $f(x)=x^3-6x^2+11x-6$.

Answer: _____ Match? ☐ Yes ☐ No

6

Describe the end behavior of $f(x)=-2x^4+x-1$.

Answer: _____ Match? ☐ Yes ☐ No

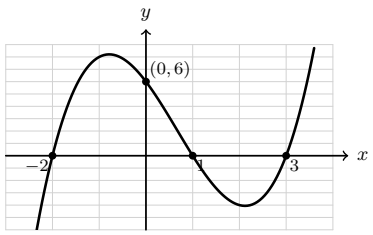
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What is the maximum number of turning points of a polynomial of degree 5?

Answer: _____ Match? ☐ Yes ☐ No

8

Write a polynomial function for the graph.



Answer: _____ Match? ☐ Yes ☐ No

UNIT 3 • POLYNOMIAL FUNCTIONS

Activity 3.1: Polynomial Operations & Graphs

B

Name: _____ Partner's name: _____ Date: _____

Directions: Answer each question. Write polynomials in standard form. Problem 8 uses a graph. Graphs are drawn accurately.

Work alone, then compare after each problem. If answers differ, find the mistake together.

1

Multiply and simplify: $(x+3)(x^2-4x+7)-19$.

Answer: _____ Match? ☐ Yes ☐ No

2

Divide x^3-x^2-5x-3 by $(x+1)$. Find the quotient.

Answer: _____ Match? ☐ Yes ☐ No

3

Find the remainder when x^3+x^2+x-2 is divided by $(x+1)$.

Answer: _____ Match? ☐ Yes ☐ No

4

Factor completely: $x(x^2-1)-3x$.

Answer: _____ Match? ☐ Yes ☐ No

5

Find all zeros of $f(x)=2x^3-12x^2+22x-12$.

Answer: _____ Match? ☐ Yes ☐ No

6

Describe the end behavior of $g(x)=-x^6+3x^2$.

Answer: _____ Match? ☐ Yes ☐ No

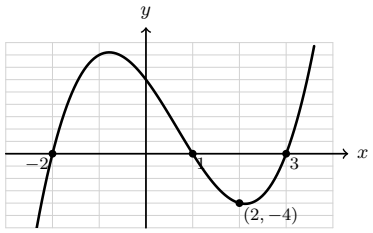
7

What is the maximum number of turning points of $f(x)=x^5+x^3-2$?

Answer: _____ Match? ☐ Yes ☐ No

8

Write a polynomial function for the graph.



Answer: _____ Match? ☐ Yes ☐ No