Big Ideas Math®

A Dicey Polynomial Situation

▶ Materials:

- Polynomial cards
- 4- or 6-sided die
- Paper
- Pencil
- Answer sheet

▶ Directions:

Students play in pairs, and each pair needs one set of polynomial cards and one answer sheet.

1. Both students draw one polynomial card.
2. One student rolls the die to determine what should be done with the two polynomials. A rolled one means add, two means subtract, three means multiply, and four means divide. If a five or six is rolled, the student simply rolls the die again until a one, two, three, or four is obtained.
3. Students perform the operation and write their answer on the answer sheet, according to what was rolled on the die. **NOTE**: In a division problem, let the higher-degree polynomial be the dividend, when applicable. Each team earns one point for every correct answer.
4. The used cards are now shuffled back into the deck of cards.
5. Students repeat steps 1–4 until time is called.

▶ Who Wins?

The pair with the highest number of points wins.

▶ Tip:

Remind students to write their answers in the correct form. Sums, differences, and products should be written in standard form. Answers to division problems should be written in the form $q(x) + r(x)/d(x)$, when applicable.

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Polynomial cards for A Dicey Polynomial Situation

$-3x^5 + 12x^4 - 3x^2 + 5x - 10$

$-9x^2 - 2x - 3$

$11x^2 + 5x + 10$

$11x^2 + 8x + 6$

$-10x^2 - 2x + 12$

$-2x^2 + 12x + 5$

$8x^2 + 10x + 4$

$-9x^3 + 12x^2 + 3x + 2$

$-8x^3 - 4x^2 - 8x + 12$

$-12x^3 - 9x - 9$

$4x^3 + 5x^2 + 10$

$2x^4 + 4x^2 + 2x - 1$

$-6x^5 - x^3 + 2x^2 + x - 6$

$x^4 + 2x^3 - 4x^2 + 4x - 1$

$4x^4 + 5x^3 - 3x + 11$

$x + 6$

$x - 5$

$x - 7$

$x - 4$

$x + 11$

$x + 4$

$x + 9$

$x - 12$

$x + 12$

$x - 9$

$3x - 4$

$2x + 5$

$3x - 10$

$2x - 5$

$3x + 1$

$x + 1$

$x + 10$

$x + 3$

$x - 2$

$x + 2$

$x - 1$

Answer sheet for A Dicey Polynomial Situation

Polynomial 1	Operation	Polynomial 2	Answer