## Unit 2 Lesson 2: Funding the Future

### 1 Notice and Wonder: Writing Numbers (Warm up)

#### Student Task Statement

What do you notice? What do you wonder?



3 100s, 2 10s, 9 1s

### 2 Polynomials in the Integers

#### Student Task Statement

Consider the polynomial function given by .

1. Evaluate the function at and .
2. How does knowing that help you solve the equation ?

### 3 A Yearly Gift

#### Student Task Statement

At the end of 12th grade, Clare’s aunt started investing money for her to use after graduating from college four years later. The first deposit was $300. If is the annual interest rate of the account, then at the end of each school year the balance in the account is multiplied by a growth factor of .

1. After one year, the total value is . After two years, the total value is . Write an expression for the total value after graduation in terms of .
2. If Clare’s aunt had invested another $500 at the end of her freshman year, what would the expression be for the total value after graduation in terms of ?

* Pause here for a whole-class discussion.

1. Suppose that $250 was invested at the end of sophomore year, and $400 at the end of junior year in addition to the original $300 and the $500 invested at the end of freshman year. Write an expression for the total value after graduation in terms of .
2. The total amount , in dollars, after four years is a function of the growth factor . If the total Clare receives after graduation is , use a graph to find the interest rate that the account earned.



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