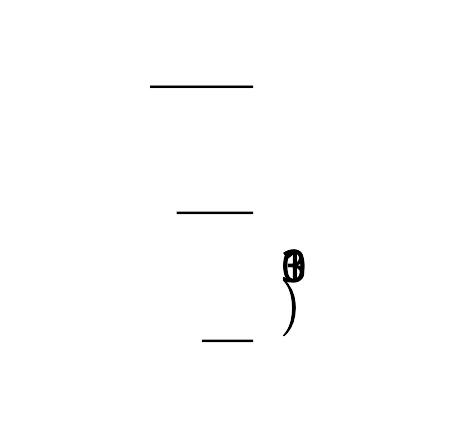
## Unit 2 Lesson 15: The Remainder Theorem

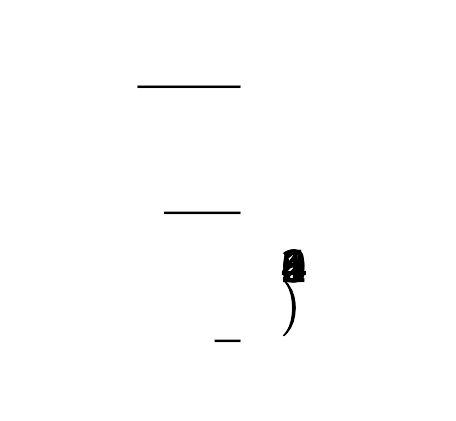
### 1 Notice and Wonder: Division Leftovers (Warm up)

#### Student Task Statement

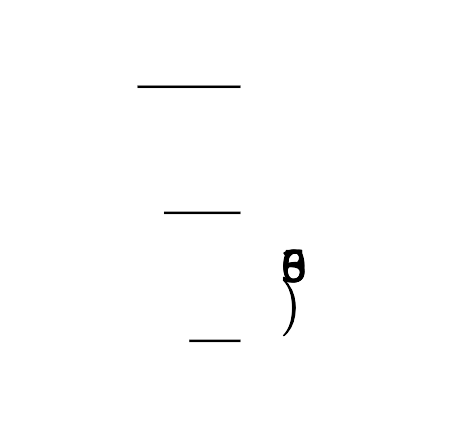
What do you notice? What do you wonder?



A.



B.



C.

### 2 The Unknown Coefficient

#### Student Task Statement

Consider the polynomial function where is an unknown real number. If is a factor, what is the value of ? Explain how you know.

### 3 A Study of Remainders

#### Student Task Statement

1. Which of these polynomials could have as a factor?
2. Select one of the polynomials that you said doesn’t have as a factor.
   1. Explain how you know is not a factor.
   2. If you have not already done so, divide the polynomial by . What is the remainder?
3. List the remainders for each of the polynomials when divided by . How do these values compare to the value of the functions at ?



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