## Unit 2 Lesson 3: Writing Equations to Model Relationships (Part 2)

### 1 Finding a Relationship (Warm up)

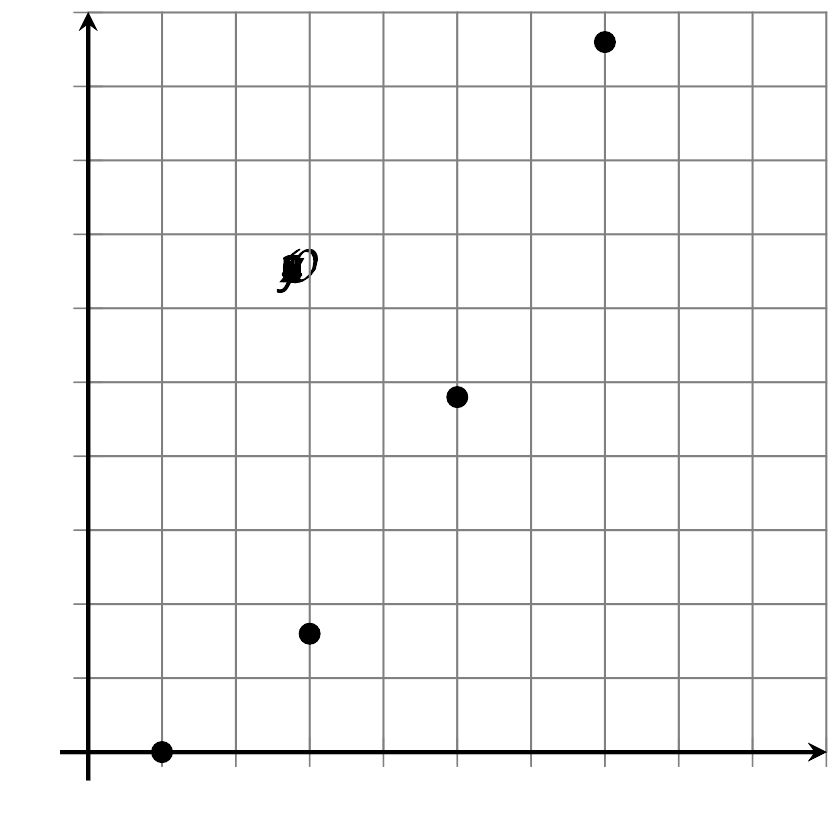
#### Student Task Statement

Here is a table of values. The two quantities, and , are related.

|  |  |
| --- | --- |
|  |  |
| 1 | 0 |
| 3 | 8 |
| 5 | 24 |
| 7 | 48 |

What are some strategies you could use to find a relationship between and ? Brainstorm as many ways as possible.

#### Activity Synthesis



### 2 Something about 400

#### Student Task Statement

1. Describe in words how the two quantities in each table are related.
   * Table A

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| * + number of laps, | * + 0 | * + 1 | * + 2.5 | * + 6 | * + 9 |
| * + meters run, | * + 0 | * + 400 | * + 1,000 | * + 2,400 | * + 3,600 |

* + Table B

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| * + meters from home, | * + 0 | * + 75 | * + 128 | * + 319 | * + 396 |
| * + meters from school, | * + 400 | * + 325 | * + 272 | * + 81 | * + 4 |

* + Table C

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| * + electricity bills in dollars, | * + 85 | * + 124 | * + 309 | * + 816 |
| * + total expenses in dollars, | * + 485 | * + 524 | * + 709 | * + 1,216 |

* + Table D

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| * + monthly salary in dollars, | * + 872 | * + 998 | * + 1,015 | * + 2,110 |
| * + amount deposited in dollars, | * + 472 | * + 598 | * + 615 | * + 1,710 |

1. Match each table to an equation that represents the relationship.
   * Equation 1:
   * Equation 2:
   * Equation 3:
   * Equation 4:

### 3 What are the Relationships?

#### Student Task Statement

1. The table represents the relationship between the base length and the height of some parallelograms. Both measurements are in inches.

|  |  |
| --- | --- |
| * base length (inches) | * height (inches) |
| * 1 | * 48 |
| * 2 | * 24 |
| * 3 | * 16 |
| * 4 | * 12 |
| * 6 | * 8 |

* What is the relationship between the base length and the height of these parallelograms?

1. Visitors to a carnival are invited to guess the number of beans in a jar. The person who guesses the correct number wins $300. If multiple people guess correctly, the prize will be divided evenly among them.

* What is the relationship between the number of people who guess correctly and the amount of money each person will receive?

1. A -gallon jug of milk can fill 8 cups, while 32 fluid ounces of milk can fill 4 cups.

* What is the relationship between number of gallons and ounces? If you get stuck, try creating a table.



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