**6.2 Linear Relations**

**Goals**

* Determining if a relation is linear
* Representing linear relations in a variety of ways
* Explaining why data points should or should not be connected
* Identifying the dependent and independent variables in a relation

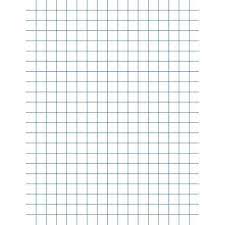
**Vocabulary**

1. Relation
2. Linear Relation
3. Non-Linear Relation
4. Discrete Data
5. Continuous Data
6. Independent Variable
7. Dependent Variable

**Notes**

**Examples**

1. In a frog jumping championship (yes it is real), the champion frog was able to jump just over 2m in a single leap. Assume the frog always covers the distance of 2m. Consider the relationship between the number of jumps the frog takes, and the total distance that it travels.
   1. Identify the relationship as linear or non-linear. Explain how you know
   2. Create a variable to represent each quantity in the relation. Which is the independent and the dependent variable?
   3. Create a table of values for the relationship
   4. Graph the relationship. Is the data discrete or continuous?

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1. Consider each relation. Determine whether the relation is linear. Explain why or why not
   1. The relation described by {…, (-9, -10), (-7, -5), (-5, 0), (-3, 5), (-1, 10), …}
   2. The graph shows the relationship between the amount, A, of radioactive isotope present and the age of a rock sample over time, t, in years
   3. The relation described by the equation m – 17 = 0.8n

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