EQAO Sample Questions for Investigating Relationships:

1. A pot of hot soup is placed in a refrigerator to cool. Information about the temperature of the soup at five different times is shown.

   ![Temperature vs. Time graph]

   Which statement below is true based on the overall trend in the data?
   
a. At 90 minutes, the temperature of the soup will be 0°C.
   b. The temperature of the soup decreases at a constant rate.
   c. It takes approximately 18 minutes for the soup to cool to half its original temperature.
   d. There is a greater decrease in temperature between 50 and 80 minutes than between 10 and 30 minutes.

2. Raven starts 6 m away from a motion detector. She walks quickly toward it, stops 2 m from the detector for a moment and then backs away from it slowly.

   Which of the following graphs could represent the relationship between her distance from the detector, $D$, and time $t$, in seconds?

   ![Graph options a, b, c, d]

3. Information about the relationship between the height of a plant and time is shown on the grid below.

   ![Height vs. Number of Weeks graph]

   ![Height vs. Number of Weeks data tables a, b, c, d]

   a. 
   b. 
   c. 
   d.
4. The graph below represents Joe’s distance from a wall as he walks.

**Distance From Wall vs. Time**

Which statement could describe Joe’s walk?

a. Joe walks toward the wall, stands still and then walks away from the wall.
b. Joe walks away from the wall, stands still and then walks toward the wall.
c. Joe walks toward the wall, stands still and then continues to walk toward the wall.
d. Joe walks away from the wall, stands still and then continues to walk away from the wall.

5. Four stores hire people to deliver flyers. Each pays a different amount per flyer delivered. The points on the graph below show the total pay for a certain number of flyers delivered for each of the stores.

Which store will pay $45 for 450 flyers delivered?

a. Store W
b. Store X
c. Store Y
d. Store Z

6. The total yearly cost of a museum membership is made up of a fee of $25, plus $5 per visit.

Which graph best represents the relationship between total yearly cost, C, and number of visits, n?

a. [Graph A]
b. [Graph B]
c. [Graph C]
d. [Graph D]
EQAO Sample Questions for Investigating Relationships:

1. **More Money, Please!**

The graph below shows information about the amount of money, \( A \), in Shreya’s bank account and the number of months, \( n \), she has had the account.

![Graph showing the relationship between amount of money in account and number of months.](image)

Draw the line of best fit for the data.

Determine the equation of your line of best fit.

\[
A = \text{_____} \times n + \text{_____}
\]

Show your work.
2.

Kenny’s Big Adventure

The following graph represents the relationship between Kenny’s distance from home on a bike ride and time.

![Graph showing distance from home vs. time](image)

Describe the 3 segments of Kenny’s ride. Include information about distance travelled, time, direction and speed, in km/min, for each segment.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Distance travelled</th>
<th>Time</th>
<th>Direction</th>
<th>Speed (km/min)</th>
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</thead>
<tbody>
<tr>
<td>a</td>
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<td>b</td>
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