**Graphing Practice**

# Practice Problem #1

The thickness of the annual rings indicates what type of environmental situation was occurring the time of the tree’s development. A thin ring usually indicates a rough period of development such as lack of water, forest fires, or insect infestation. On the other hand, a thick ring means a prosperous period of development. Use the information from the data table below to create a proper scientific graph and to answer the corresponding questions.

|  |  |  |
| --- | --- | --- |
| **Age of Trees (in years)** | **Average Thickness of Annual Rings in Forest A (millimeters)** | **Average Thickness of Annual Rings in Forest B (millimeters)** |
| 10 | 20 | 24 |
| 20 | 24 | 28 |
| 30 | 30 | 35 |
| 35 | 34 | 38 |
| 50 | 41 | 45 |
| 60 | 46 | 51 |

1. What is the independent variable? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is the dependent variable? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What was the mean thickness of annual rings for all trees found in Forest B? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Complete the graph**, then answer the following questions

1. Based on the graph what was the **average thickness** of annual rings for 40 year old trees in Forest A? \_\_\_\_\_\_\_\_
2. Based on the data shown, what can be concluded about the comparative health of Forest A & B? \_\_\_\_\_\_\_\_\_\_\_\_

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1. Describe the relationship which exists between the age of trees and the average thickness of the tree’s rings? Explain. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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# Practice Problem #2

Background: Clams were placed into various temperatures of water. Use the information in the data table below in order to create a proper scientific graph and to answer the corresponding questions.

|  |  |
| --- | --- |
| **Water Temperature (°C)** | **Number of Developing Clams** |
| 15 | 72 |
| 20 | 92 |
| 25 | 120 |
| 30 | 140 |
| 35 | 99 |
| 40 | 72 |
| 45 | 36 |
| 50 | 0 |

1. What is the independent variable? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is the dependent variable? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What is the mean number of clams per sample? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Complete the graph**, then answer the following questions

1. What is the optimum temperature for clam development? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Approximately how many clams would be developing in 10 degree Celsius water? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What is it called when you make predictions about data not yet recorded, such as the prediction we made in question number 5? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Practice Problem #3**

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Background: Natalie sets out to run 15 kilometers. Every 30 minutes she checked her pedometer to determine how far she had run. Use the data below to create a proper scientific graph and to answer the corresponding questions.

|  |  |
| --- | --- |
| **Time (minutes)** | **Total Distance (km)** |
| 0 | 0 |
| 30 | 6.8 |
| 60 | 10.1 |
| 90 | 12 |
| 120 | 13.3 |
| 150 | 15 |

1. What is the independent variable? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is the dependent variable? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Complete the graph**, then answer the following questions

1. How many kilometers had Natalie run after 40 minutes? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What was Natalie’s average speed (in kilometers per hour) over the course of her run? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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## Practice #4

Background: Match each story on the left with the graph it represents on the right. Each graph compares the distance a car is from home compared to time.



B



A



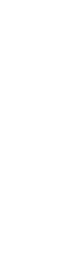
Time



D



C



Distance from Home

\_\_\_\_1. I had just left home when I realized I had forgotten my books, so I went back to pick them up.

\_\_\_\_2. The battery on my electric car started to run down.

\_\_\_\_3. Things went fine until I had a flat tire.

\_\_\_\_4. I started out calmly, but sped up when I realized I was going to be late.

## Practice Problem #5

School

25

%

Phone

17

%

Sleep

33

%

TV

13

%

Eat

8

%

Study

4

%

**Teenage Activities in a Day**

Background: The pie chart shows the approximate percentages teenagers spend doing various activities in a day. Use the information in the pie chart to answer the questions below.

1. What percent of the day is spent watching TV? \_\_\_\_\_
2. How many hours are spent sleeping? \_\_\_\_\_
3. What activity takes up the least amount of time? \_\_\_\_\_\_\_\_\_\_\_\_\_
4. What activity takes up a quarter of the day? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. What two activities take up 50% of the day? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. What two activities take up 25% of the day? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

0

20

40

60

80

100

$1

$2

$3

$4

$5

**Quantity demanded (per wk)**

**Price per Bushel (dollars)**

**Quantity Demanded vs. Price Per Bushel**

## Practice Problem #6

1. What is the dependent variable? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Does the price per bushel always increase with demand?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the quantity demanded when the price is $5 per bushel? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is the price per bushel when the quantity demanded is 80? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_