

Figure A.5

A

A PE teacher believed that the shorter a person's hair was cut, the more jumping jacks that person could do in a minute. Do you agree?

Test the hypothesis by performing the experiment with eight classmates who have different hair lengths. Record the data on a chart and then graph the data on large chart paper with markers. Label your graph with a title.

What does the graph tell you? Can you write an equation to model the relationship?



Image source: bubaone/iStock.com

B

Marvin goes for a job at Floors-R-Us. During his interview, the manager asks him if he knows the relationship between area and perimeter of a rug. Marvin says he does. The bigger the area, the bigger the perimeter.

Was Marvin correct? Use the set of rectangular rugs on the worksheet to determine if there is a relationship between perimeter and area. Put your data in a chart and then graph the results on large chart paper using markers. Label the graph.

What does the graph tell you? Is there a relationship?

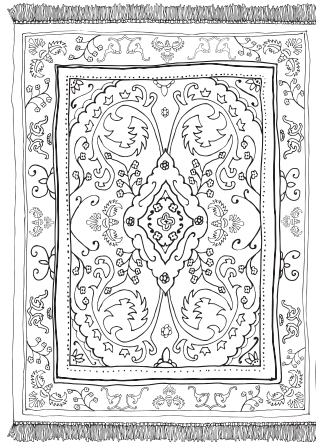


Image source: albertc111/iStock.com

(Continued)

Figure A.5 (Continued)

C

Grayson works at Shoes-for-Less. Shanique comes in for a pair of shoes. Grayson measures her thumb to tell her what size she needs. Grayson says, "You can tell a person's shoe size by the length of his or her thumb." Shanique says, "That is ridiculous!" "No, really," argued Grayson. "It is a scientific fact!"

Is it a fact that your thumb length can predict your shoe size? Do an experiment with eight of your classmates collecting data on their thumb length and shoe size. Enter the data in a table and graph on the large chart paper with a marker. Title the graph.

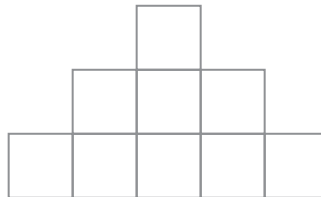
Is Grayson telling the truth? How do the data back up your answer?



Image source: ONYXprj/iStock.com

D

You were asked to create a double-sided staircase for a friend. You decide to make a scale model first using cubes. The staircase should look like this:



Your friend never said how tall the staircase should be. Create eight staircases, each one layer of cubes taller. Put the results on a table comparing the number of cubes needed to the heights. Graph on large chart paper. Is there a relationship between the number of cubes and the height of the staircase? Can you write an equation to model these data?

E

You have a penny. You toss it once and your outcome possibilities are H and T. When you toss it twice, your possible outcomes are HH, TT, HT, TH. You want to continue tossing the coin up to eight times. On a table, keep track of the number of tosses and the number of possibilities. For example, on the first toss, there were two possible outcomes.

Graph the data from the table. Do you see a relationship? Can you write an equation?



Image source: MisterVector/iStock.com

Figure A.5 (Continued)

F

In the futuristic movie *Cloning*, the main character has an eight-day cloning catastrophe! On the first day, he cloned himself. On the second day, he cloned himself again and his clone from the day before. This continued for eight days before his clones got him into so much trouble, he had to end the cloning.

Keep a table comparing the day and the number of clones. Graph these data on chart paper. Is there a pattern? Is there an equation that can model this situation?



Image source: Yevhenii Dubinko/iStock.com

G

Rolling can be fun. Let's take a soup can for a roll. Mark a beginning spot on the can. Then roll the can on the floor once starting and stopping on your mark. Measure how far the can rolled. Do it again; this time, let the can roll around all the way twice. Measure distance traveled again. Repeat this for three, four, five, six, seven, and eight rolls. Record the data on a table comparing the number of times the can rolled and the distance it traveled. Graph these data on chart paper.

Is there a pattern? Can you predict the distance the can will travel on nine rolls? Explain. Can you write an equation to model the roll and distance?



Image source: solargaria/iStock.com

(Continued)

Figure A.5 (Continued)

H

Rocky rents rollerblades. He charges a fee of \$25 to everyone for renting the blades and then \$20 per hour for each hour they keep them. To make things easy for customers, Rocky wants to post a graph with the prices a customer must pay for one hour, two hours, and up to eight hours to rent the roller blades. Create a table comparing the number of hours a person rents rollerblades to how much he or she will pay for up to eight hours. Graph these data on chart paper. Add a title to the graph.

Write an equation for Rocky's pricing. Is there a pattern?

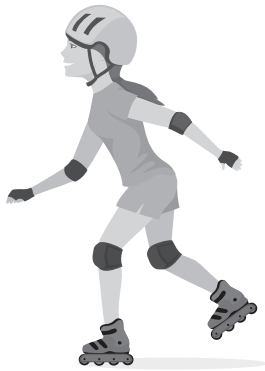


Image source: Vect0r0vich/iStock.com

I

Tebo's T-Shirts is opening in your neighborhood. You can design your own logo on a T-shirt and Tebo will make them for you. Tebo charges \$12 to put your design on a T-shirt and \$8 per T-shirt you order. You are not sure how many T-shirts you need. It is somewhere between one and eight, so you ask Tebo to give you the prices for one, two, three, and so forth up to eight T-shirts. To make it easy, Tebo gives you a graph.

Create the graph Tebo gives to his customers. First, create a table that shows the number of T-shirts and the price charged, including the logo fee. Graph that data on chart paper.

Write an equation to show the relationship between the number of T-shirts and the cost.

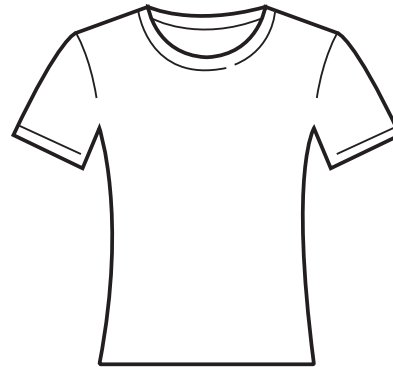


Image source: NYstudio/iStock.com