

Below is the roster for the 2010-11 Philadelphia 76ers taken from the official team website.



Name	Height (Ft-Ins)	Year of Birth	Years in NBA
Tony Battie	6-11	1976	12
Elton Brand	6-9	1979	11
Rodney Carney	6-7	1984	4
Francisco Elson	7-0	1976	7
Willie Green	6-3	1981	7
Spencer Hawes	7-1	1988	3
Jrue Holiday	6-4	1990	1
Andre Iguodala	6-6	1984	6
Allen Iverson	6-0	1975	14
Jason Kapon	6-8	1981	7
Jodie Meeks	6-4	1987	1
Andres Nocioni	6-7	1979	6
Jason Smith	7-0	1986	2
Marreese Speights	6-10	1987	2
Evan Turner	6-7	1988	0
Louis Williams	6-1	1986	5
Thaddeus Young	6-8	1988	3

9. Create a line plot to show something about the 76ers using the data above. Remember to add a title to your line plot.









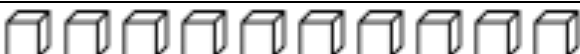


6a. A PICTURE IS WORTH A THOUSAND WORDS

Representing Drink Data with Pictographs


- ▶ How healthy are our favorite beverages?

Experts say that women should be getting no more than 6 teaspoons or sugar per day, while the limit for men should be 9 teaspoons per day. So, how many are people actually consuming? The average American currently consumes 22 teaspoons of sugar each day! Wait... it gets worse! The average American teenager eats 34 teaspoons per day. YIKES! Where is all this sugar coming from? Well... Many of the beverages that we drink are filled with sugar!

The pictograph below shows the amount of sugar in popular beverages. Drink containers are all different sizes, but the pictograph below shows the amount of sugar in 12 oz of each beverage. (Think: A Can of Soda is 12 oz)

Red Bull	
Chocolate Milk	
Lemonade Vitamin Water	
Lemon-Lime Gatorade	
Low-fat Plain Milk	
Cookies 'n Cream Milkshake	
Coke	
Orange Juice	
Mt. Dew	

1. Why do you think this graph is called a pictograph?

KEY
 = 4 grams of sugar

2. How many grams of sugar are in 12 oz of Lemon-Lime Gatorade?
3. How many more grams of sugar are in Chocolate Milk than in Lowfat Plain Milk?

Did you know?
 4 grams of sugar =
 1 teaspoon

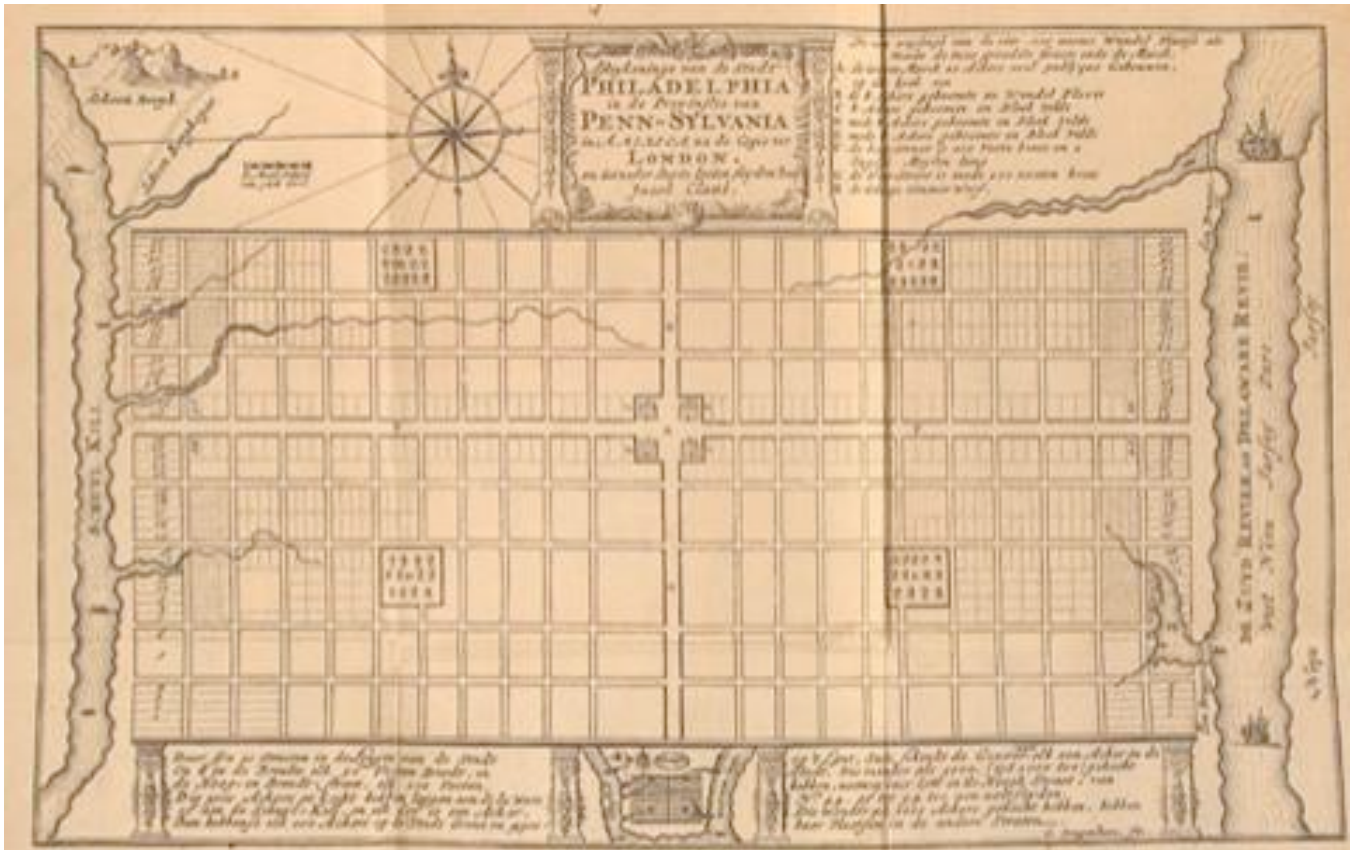


Lesson 1: Penn's Map

In 1681, King Charles of England granted William Penn over 45,000 square miles of land in the New World to settle a debt that the King owed to Penn's father.

In 1683, William Penn chose the site between the Delaware and Schuylkill Rivers to be the capital of his new Pennsylvania colony and named it Philadelphia.

To entice fellow Quakers from England to come and settle in Philadelphia, he drew up a plan for the city that was to have orderly streets and plenty of open space. The map below shows his original layout.



Group Discussion:

1. What do you notice about Penn's layout for the city streets?
2. Is this a good design for a city? Why or why not?
3. How does it compare to the current map of center city?
4. How does it compare to the map of Boston from 1772 on the next page?

Lesson 4: Triangles

Warm Up!!

1. Draw a regular pentagon. How do you know it is a regular pentagon?
2. Draw an irregular hexagon. How do you know it is an irregular hexagon?

Triangles are very important shapes to architects, engineers, and carpenters.

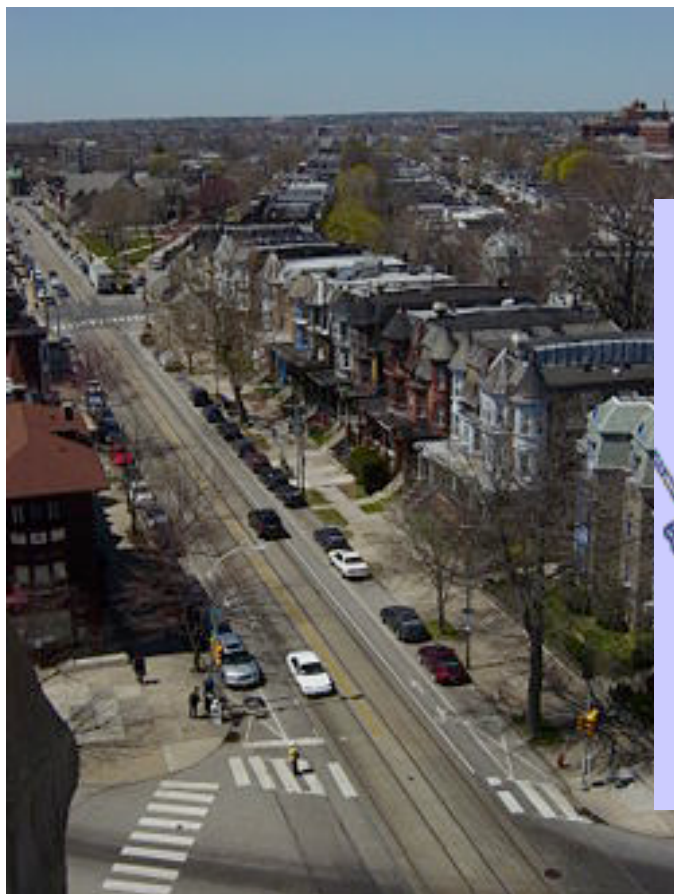
1. The pictures below are from the Ben Franklin Bridge (which connects Philadelphia to New Jersey). Do you see triangles in the photos? Trace them.



C. AREA – Our neighborhood and its schools

Our Philadelphia Neighborhood

West Philadelphia is a district within the larger city of Philadelphia.



West Philadelphia covers an area of approximately 44,000,000 square yards.



It is difficult to imagine how large an area 44,000,000 square yards is.

1. a. Find some combinations of length and width measurements for an area of 44,000,000 square yards.

b. Consider the areas of a football field, a baseball field, Fairmount Park, and the entire city of Philadelphia (your teacher should give you this information).

Come up with one or more combinations of places that cover about the same area as West Philadelphia.

Scatter Plots

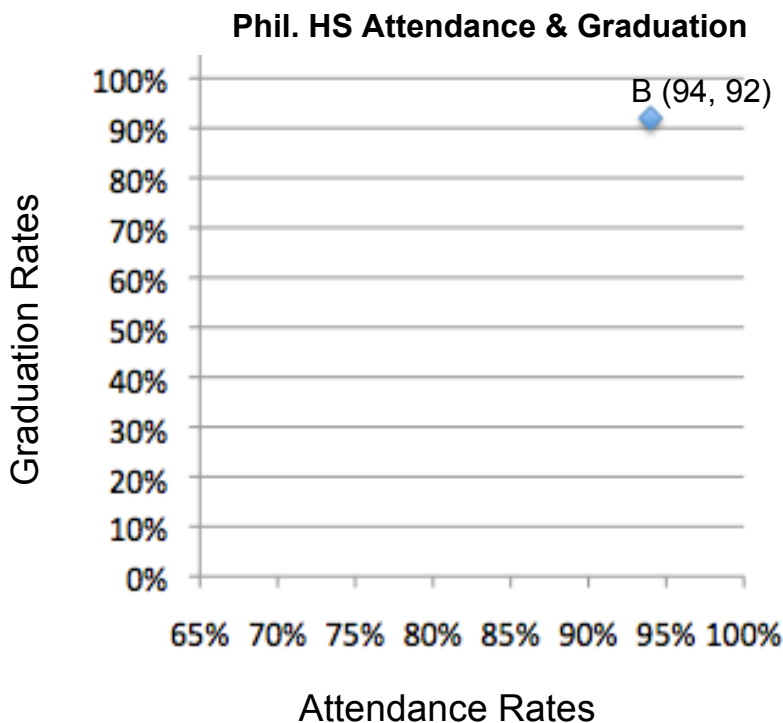
Below are the attendance and graduation rates of seven Philadelphia high schools taken from the data on pages 21-22.

You will be examining a graph that will help you understand more about the **relationship** between attendance and graduation rates in Philadelphia high schools.

SCHOOL NAME	ATTENDANCE RATE	GRADUATION RATE
B ODINE WILLIAM W HS	94%	92%
C ENTRAL HS	95%	87%
F RANKFORD HS	77%	65%
K ENSINGTON CREATIVE & PERF ARTS	80%	81%
M ASTBAUM JULES E AVTS	87%	72%
P AUL ROBESON HS FOR HUMAN SERVICES	90%	77%
U NIVERSITY CITY HS	72%	68%

1. What is the range of the attendance rates above?
2. What is the range of the graduation rates above?

The graph on the left shows the location of point B, which corresponds to Bodine at (94, 92).



3. What do you think the graph will look like when you plot all the points from above?
4. Plot and label points C, F, K, M, P, and U on the grid to the left.
5. Was your prediction in #3 correct?

Cricket has two types of plans:

Regular plan: \$45 for unlimited talk and text for a month.

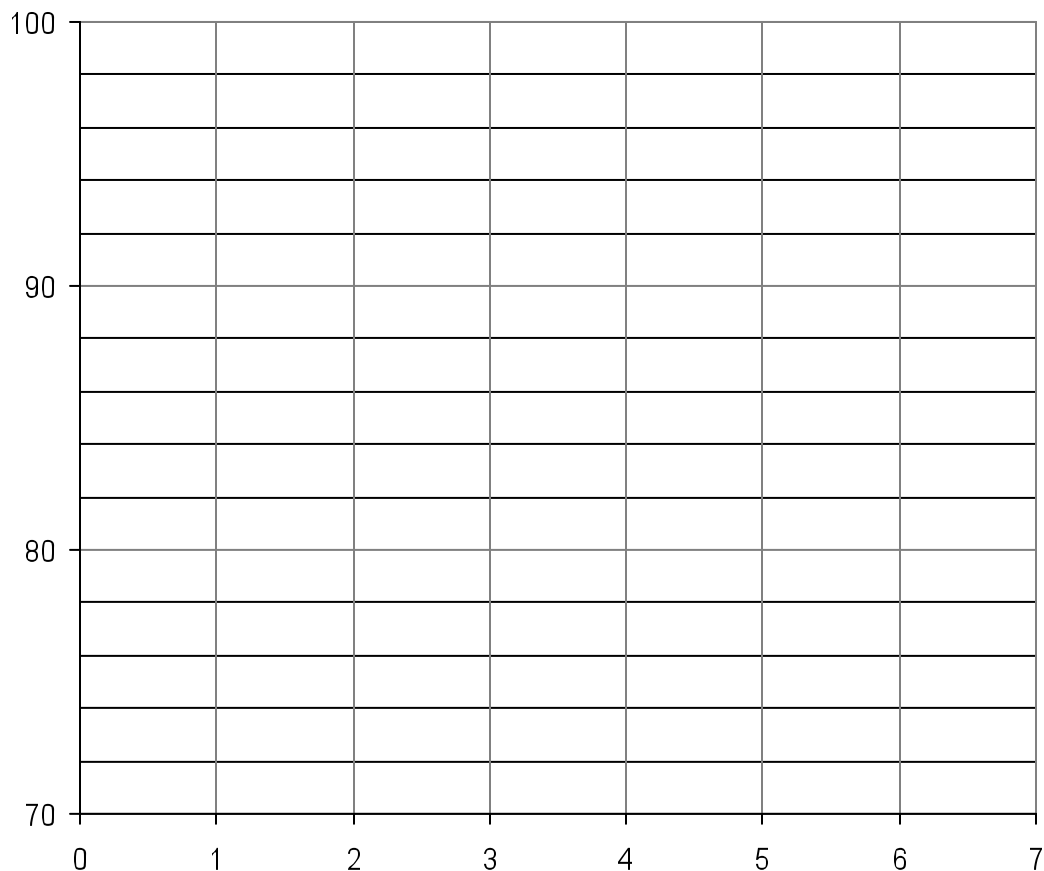
PayGo plan: \$2 per day for unlimited talk and text. You pay only on the days when you use it.



10. A Cricket TXTM8 phone costs \$80. Copy the following table into your workbook, then fill in the boxes, showing how much money you have spent each day if you buy the TXTM8 then sign up for the PayGo plan and talk on your phone every day.

# days you use the phone	0	1						
Total amount spent	80							

11. Graph this function. Don't forget the table and the axis labels.



Since this is a linear function, you can use the amount spent after the CURRENT day to find the amount spent after the NEXT day.

12. Fill in the blank to write a formula that allows you to find the amount spent after the NEXT day, using the amount spent after the CURRENT day:

$$\text{NEXT} = \text{CURRENT} + \underline{\quad}$$

Equations using NEXT and CURRENT are called **recursive formulas**.

13. Another formula for this situation is: $T = 80 + 2D$. What do you think the letter T stands for? the letter D? Explain the numbers in the formula.

14. How much will you have paid after one month (30 days)? _____

b. If you use your phone every day, which is a better deal, the regular plan or the PayGo plan? Explain your answer.

15. Write a recursive formula for how much the amount spent changes per *month* (30 days) for both plans if you talk everyday.



regular: \$45 for unlimited talk and text for a month.

$$\text{NEXT}_{(\text{month})} = \text{CURRENT}_{(\text{month})} + \underline{\quad}$$

PayGo: \$2 per day for unlimited talk and text.

$$\text{NEXT}_{(\text{month})} = \text{CURRENT}_{(\text{month})} + \underline{\quad}$$

16. Now think about the situation where you are on the PayGo plan and only use your phone every other day. Complete the following table:

Day	0	1	2	3	4	5	6
		talks	doesn't talk	talks	doesn't talk	talks	doesn't talk
Total amount spent							

17. Is this a **linear function**? How do you know? What would the graph of this function look like?

18. Graph this **function** on the graph from #11. Was your answer to question 17 correct?
