Making and Interpreting Graphs

1. For this activity, each child in the class needs a packet of candies, such as Skittles, a small pie plate, and markers or colored pencils.

   (a) Count the number of candies you have. Write the number: _____.

   (b) Make a frequency table from the whole class's data.

   (c) You need to have exactly 20 candies. If you have less than 20 candies, get some from somebody who has more than 20.

   Arrange 20 candies around your plate so that the same colors are together. Space the candies equally. Make a circle graph on your plate showing the different color candies.

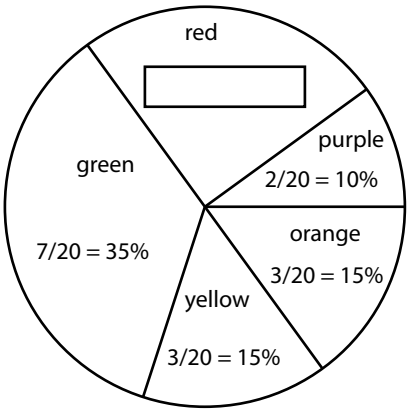
   (d) In each part of your circle graph write the fraction of candies that are that color.

   (e) In each part of your circle graph write the percentage of candies that are that color. Show your work figuring the percentages.

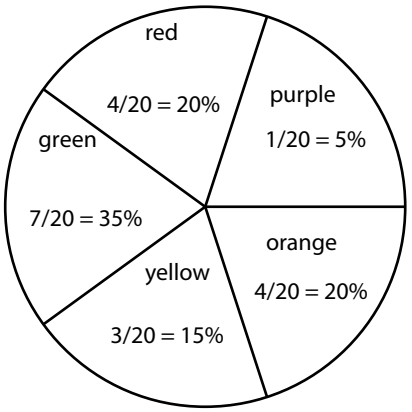
   (f) Make a frequency table showing how many candies you have of each color.

   (g) Make a bar graph showing how many candies you have of each color.

2. Refer to the circle graphs.



Jayna's circle graph



Mark's circle graph

   (a) Jayna's circle graph is not finished. Finish Jayna's circle graph by filling in the fraction and the percentage of red.

   (b) List two things that are wrong with Mark's circle graph.

3. List about 5 popular songs. Ask students to raise their hands for those songs that they like. Record the number of hands raised each time. Then ask: can we make a circle graph with these data? Then ask: If we started over, what question could we ask so that we would be able to make a circle graph with our data?

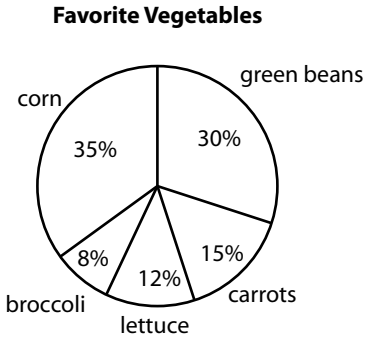
4. Refer to the circle graph.

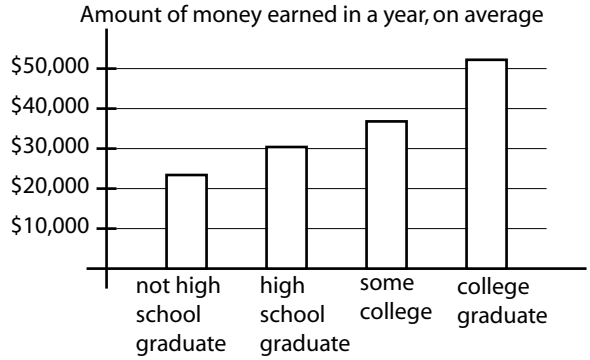
   (a) Which vegetable is most popular? _____

   (b) Which vegetable is least popular? _____

   (c) Which two vegetables together received more than half of the votes? _____

5. Refer to the bar graph.



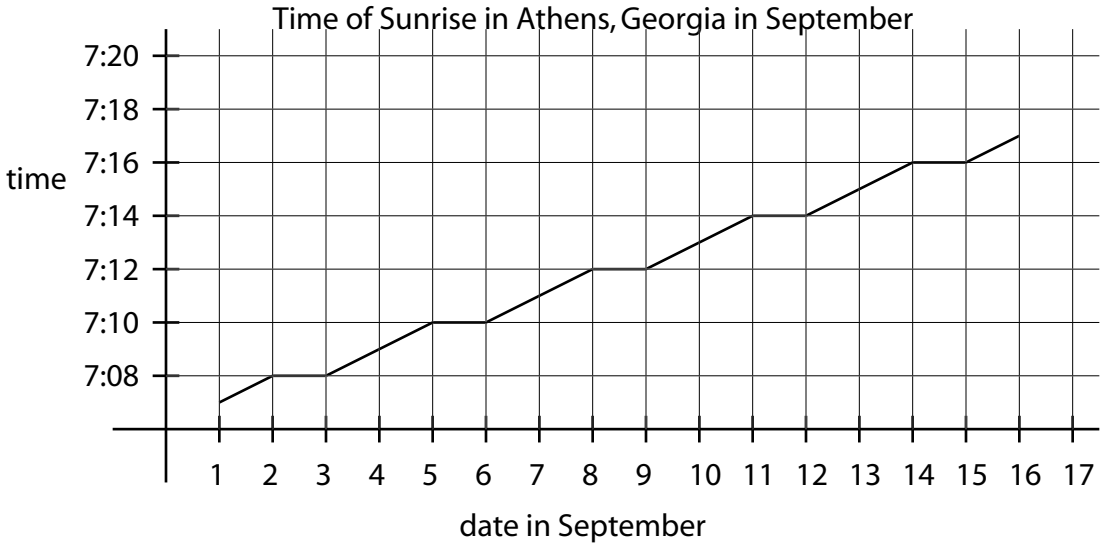


(a) About how much money per year does a person who is not a high school graduate earn, on average? _____

(b) About how much more money per year does a person who has some college earn than a person who is not a high school graduate, on average? _____

(c) About how much more money does a college graduate earn in a year than a person who is not a high school graduate, on average?

6. Refer to the line graph.



(a) At what time did the sun rise in Athens on September 5? _____

(b) At what time did the sun rise in Athens on September 7? _____

(c) On what date in September did the sun rise at 7:09? _____

(d) On what two dates in September did the sun rise at 7:14? _____

(e) Predict the time that the sun will rise in Athens on September 17. _____

7. Refer to the frequency table.

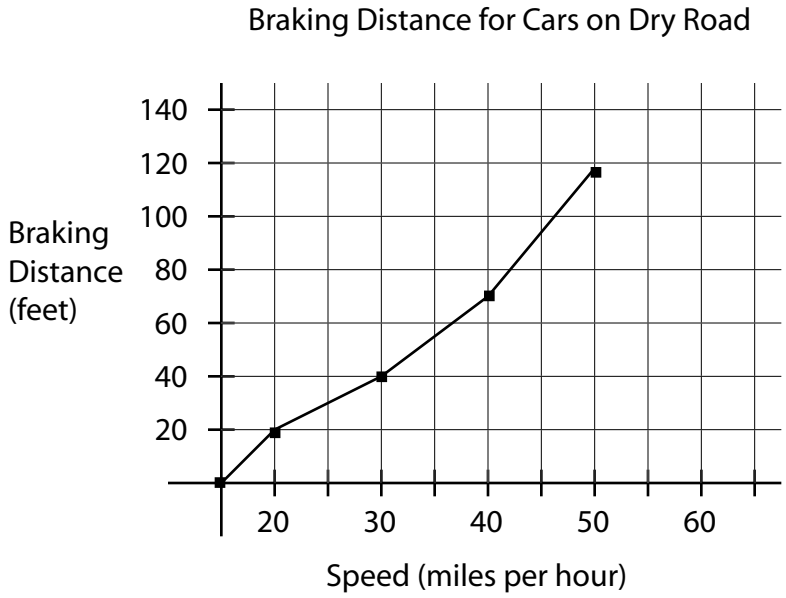
Passes Completed	
Number of Passes	**Number of Players Completing that Many Passes**
0 – 4	3
5 – 8	6
9 – 12	9
13 – 16	8
17 – 20	5

(a) How many players completed 9 or more passes? _____

(b) Can you tell from the table if any player completed exactly 12 passes? Explain.

(c) How many players completed 12 or fewer passes? _____

8. Refer to the line graph.



(a) What is the braking distance of a car going 30 miles per hour? _____

(b) What is the breaking distance of a car going 40 miles per hour? _____

(c) A car skidded 100 feet when it was breaking. How fast was the car going? _____

(d) Predict the braking distance of a car going 55 miles per hour. _____