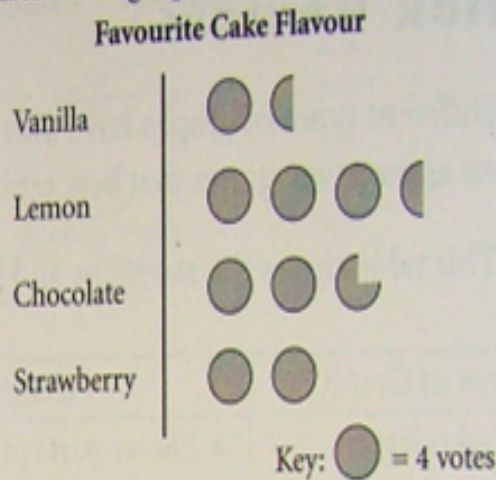
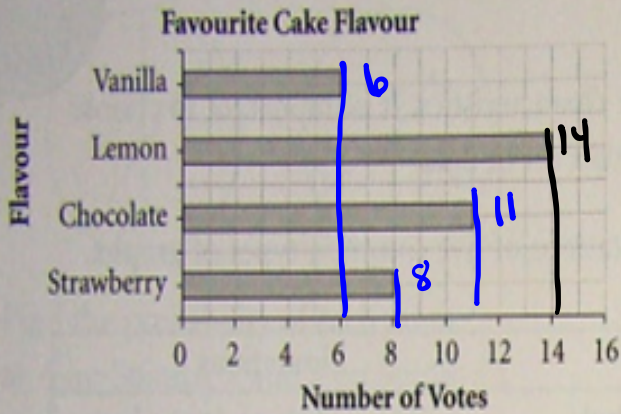


Warm Up Grade 8

April 8, 2016

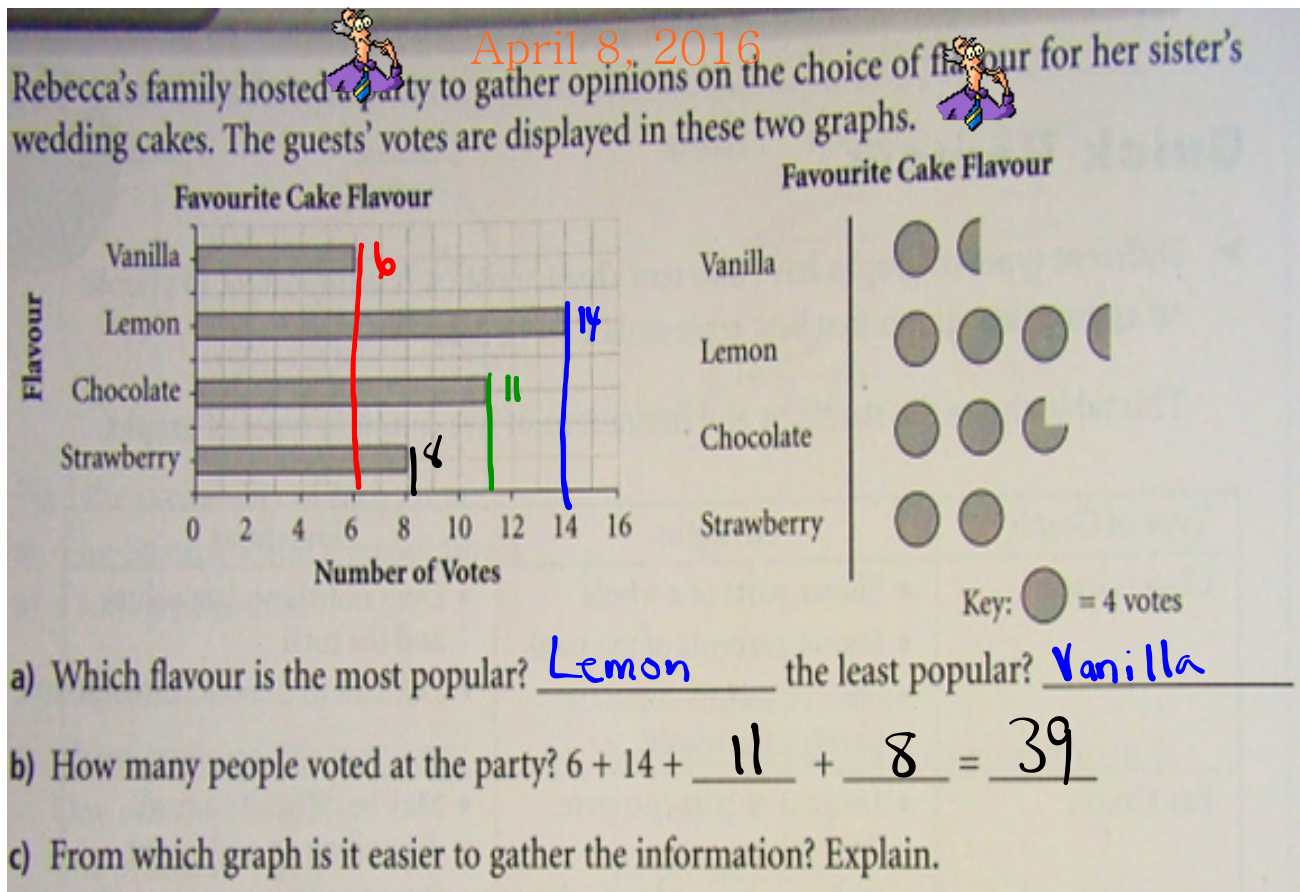
Rebecca's family hosted a party to gather opinions on the choice of flavour for her sister's wedding cakes. The guests' votes are displayed in these two graphs.



- a) Which flavour is the most popular? Lemon the least popular? Vanilla
- b) How many people voted at the party? $6 + 14 + \underline{11} + \underline{8} = \underline{39}$
- c) From which graph is it easier to gather the information? Explain.

1/20.
to calculate the # of votes
○ = 4 votes
So 2 circles = 8 votes

Warm Up Grade 8



c) I like the Bar graph better b/c I can look at the height (length) of the bar and look at x-axis to see # of votes given
Strawberry has 8 votes

Not a fan of pictograph b/c I have to calculate the # of votes
 $\bigcirc = 4 \text{ votes}$
 So 2 circles = 8 votes

1) More than one graph can be used to represent the same data



pg. 387 # 1, 3, 5, 6,

3. a) All groups spend at least 12 hours watching TV each week.
Adult men spend 21 hours watching TV each week.
Children spend 15 hours watching TV each week.

b) Women 18 and over watch the most TV.
Teens watch the least TV.
Children watch more TV than teens.

c) Choice of graph may vary. For example: Each square in the pictograph represents 4 h, so you have to multiply the number of squares (and fractions of a square) by 4 to determine the number of hours a group spends watching TV. It is easier to use the bar graph because the rectangles end on a grid line or between two grid lines, and the scale is labelled on every other line where it intersects the horizontal axis. So, the bar graph is the better choice.

4. a) The bar graph is easier to read.
The symbols in the pictograph reinforce the topic and make it more visually appealing.

b) Neither graph shows the percent of students who littered each number of times.

c) If you want to clearly show the number of students who littered each number of times, the bar graph is the better choice. If you want to show the number of students who littered each number of times in a visually appealing way, the pictograph is the better graph.

d) Since the data were not collected over time, you should not use a line graph to display the data. Displaying the data in a circle graph is appropriate if you are interested in the proportion of students who littered each number of times.

5. a) The most common final grade was a B.
 ☆☆☆ 7 students got A as a final grade.
 3 students got D as a final grade.
- ☆☆ b) The most common final grade was a B.
 10% of the class got D as a final grade.
 More students got C as a final grade than A.
- ☆☆ c) The bar graph shows the number of students who got each grade. The circle graph shows the proportion, not the number, of students who received each grade. So, the bar graph best shows the number of students who got B as a final grade.
- d) Mr. Sidley should show the bar graphs. He has 7 students who got an A and 10 students who got a B, while Ms. Taylor has 6 students who got an A and 8 students who got a B. They each have 3 students who got a D.
- e) Responses may vary. The question is debatable, partly because the class sizes are different. For example: Most students in Mr. Sidley's class got a B or a C, and most students in Ms. Taylor's class got an A or a B, so Ms. Taylor's class did better.
6. a) Each graph shows the Olympic winning times for men and women in the 400-m hurdles.
- ☆☆ b) The double line graph shows the trends from year to year for men and women; since the vertical axis displays data above 42 s only, it is easier to spread out the data for men and women to examine how the trends are different. The bar lengths in the double bar graph are helpful when you want to compare men and women's times.
- ☆☆ c) The double line graph is more difficult to use to compare men and women's times. The double bar graph is more difficult to use to get an accurate estimate of the winning times since the scale increases by 5 along the vertical axis.
- ☆☆ d) i) The double line graph, because the lines between the points on the graphs show the trends over time.
 ii) The double bar graph, because the difference between times is the difference in the heights of adjacent bars.

7. a) T-shirt sales over a year involve data that change over time, and you may want to know the trend over the year.
- b) Hockey players' playoff points involve discrete data, and you may want to compare the number of points each player has.
- c) District test scores on a standardized test compared to provincial averages. This topic involves discrete data, and you may want to compare how well each district performed.
- d) Number of different types of books students have read. This involves discrete data, and a symbol like a book would instantly make the topic of the graph clear.
- e) Percent of waste generated by each wing of a school. This involves data where a percent of a whole is important, and it has few categories, so the graph will not be too complex.

8. a) The data in Table B: Yearly Sales. The data change over time, and Nina probably wants to see the trend in sales.
- b) Answers may vary. For example: A circle graph. The data are discrete, and Nina could see what percent of people buy each size of shoe. So, for the next month, even if she expects the total sales will be different, she still knows what proportion of each shoe size to have in stock.
9. a) The line graph clearly shows the trends in attendance over time. The bar graph lets you easily compare attendance in different years.
- b) The line graph does not let you easily compare the number of people in attendance in two different years. The bar graph doesn't show the trends in attendance as clearly as the line graph.
- c) The line graph is the better choice if you want to show the trend over time. The bar graph is the better choice if you want to compare the attendance in different years.

- d) A circle graph would not be appropriate because there is no obvious part-to-whole relationship.
 10. a) I drew a line graph because the data change over time.

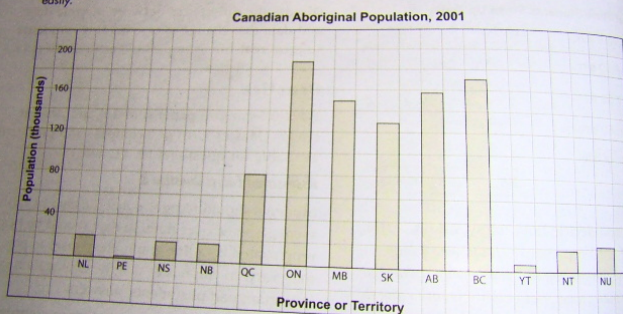


b) **Advantages:** The graph shows how the number of people employed in the construction industry increased each year from 2002 to 2006. I could use the trends to predict the number of people employed in the construction industry in 2007.

Disadvantages: The numbers are large, so it is not easy to read the number of people employed each year. Because the graph uses the zigzag symbol on the vertical axis, it is difficult to compare the results for different years.

11. a) I drew a bar graph. The data are discrete and I wanted to be able to compare the Aboriginal populations for different provinces or territories easily.

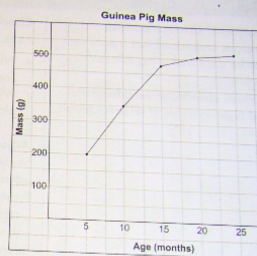
b) **Advantage:** The bar graph lets you easily compare the Aboriginal populations for different provinces or territories.



Disadvantages: The numbers are large, so it is impossible to read the exact Aboriginal population in each province or territory. You can't see what percent of Aboriginal Canadians live in each province.

12. Graph choices may vary. For example:
 i) Pictograph. The data are discrete and I think Dinah would probably want to compare the number of times her dad fell asleep for different weeks. Dinah could use a bar graph or a line graph, but I think it would be more interesting if she used a pictograph.
 ii) Double bar graph. The data are discrete and I think Dinah would probably want to compare how many times each of her parent cooked each week.
 iii) Circle graph. The data are discrete and represent how much time Dinah's brother spends doing each activity out of the 24 hours in a day. She might have to include another category for time he spends doing other things.
 iv) Line graph. This data change over time, so a line graph is best. Also, Dinah could use the line segments to estimate the height of the tomato plant on days she didn't measure it.

13. a) I drew a line graph. The data change over time (as the guinea pig grows).



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#3,#4, #5,

3. Graph B is misleading because the scale on the vertical axis starts at 100, which exaggerates the difference between the number of cans each person collected.
4. a) Graph A gives the impression that about 4 times as many students prefer Stanley Park to Canada Place. Graph B gives the impression that the number of students who prefer each place is about the same.
- b) Graph A exaggerates the differences between the numbers by starting the scale on the horizontal axis at 5. Graph B minimizes the differences between the numbers by extending the horizontal axis to 100, even though no more than 9 students chose any place.
- c) Stanley Park. The bar for Stanley Park is much longer than the other two bars.
- d) Canada Place. The bars look like they all have about the same length, making it appear that each place is equally popular. So, it was probably created by someone who wants to go to the least popular choice, Canada Place.
- e) To graph the data accurately, I would start the horizontal axis at zero and let one grid square represent 1 student.
5. a) Incorrect. On Graph A, the point above April is about 3 squares higher than the point above January. So, people might make this conclusion if they do not notice that the scale starts at 100, not 0.
- b) Incorrect. On Graph A, the point above March is about 2 squares higher than the point above January. So, people might make this conclusion if they do not notice that the scale starts at 100, not 0.
- c) Correct
- d) Correct

Class/Homework

page 401 # 6, #7, #8, #9, #10, #11, #14

If you are loud I will assign this for homework and we will move onto a new lesson on Probability

Test Friday, April 15