

Reading Charts and Graphs

Title: Reading Charts and Graphs

Objectives: Students will be able to interpret information from charts and graphs

Materials:

Teacher notes and script (*This page and next*)

Student guided notes (*1 copy per student*)

Student worksheet (*1 copy per student*)

Overheads (*Make transparencies*)

Previous Knowledge Needed:

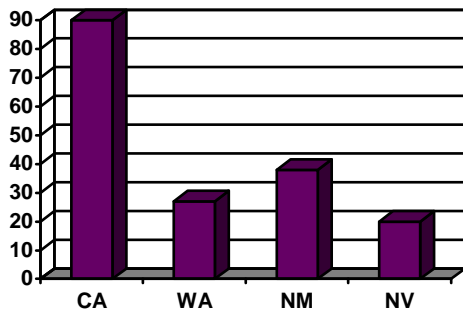
Important Concepts/Methods:

There are three main types of graphs.

- 1) A bar chart or histogram – which usually shows the quantity of individual items.
- 2) A pie chart or circle chart – which shows the percent of different items.
- 3) A line graph – which usually shows how things change over time.

Script:

Lets look at this bar chart. (*Put up overhead*)



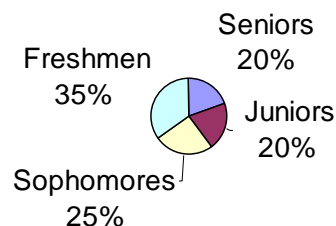
Approximately how many Indian reservations are in Nevada?

- A) 10 B) 20 C) 30 D) 95

On bar charts, the horizontal axis tells you the individual items you have information about, so we are talking about 4 states. (*Point this out on the overhead*). The vertical axis tells you the amount that you have. (*Point this out.*)

The height of the bar shows what value that particular item has. So Nevada's bar goes up to 20. (*Show this.*)

Now let's look at a pie chart. (*Put up overhead.*)



Reading Charts and Graphs

If the school has 2000 students, how many are in the Senior class?

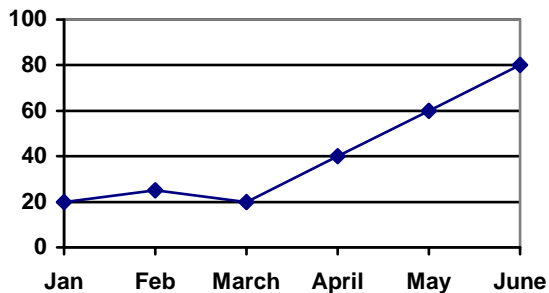
- a. 600 b. 500 c. 400 d. 300

Each section shows a certain percent for different categories. In this case it's classes in school. Looking at the chart we can see that seniors are 20%. (*Point this out on the chart.*) To get the answer, find the total number of students and multiply it by 20%. (*Work this out on the overhead.*)

20% is .20 as a decimal. So .20 times 2000 is 400. There are 400 seniors.

The other type of chart you will use is a line graph. It usually shows what is happening over time. Let's look at this one. (*Put up overhead.*)

Share Price Flucuation



During what period did prices rise most rapidly?

- A) January - February
- B) February - April
- C) January - April
- D) March - June

The horizontal axis shows the time. In this case its months. (*Point this out on the overhead.*) The vertical axis shows the values. So if we asked, for example, what the price was in May, you could see that it was 60. (*Point this out on the overhead.*)

When you want to see if things are changing rapidly or slowly, you look at how steep the graph is. The steeper the graph, the quicker it's changing. Think about skiing. The steeper the mountain, the faster you go. So the steepest part is between March and June. (*Show this on the overhead.*)

Common Mistakes:

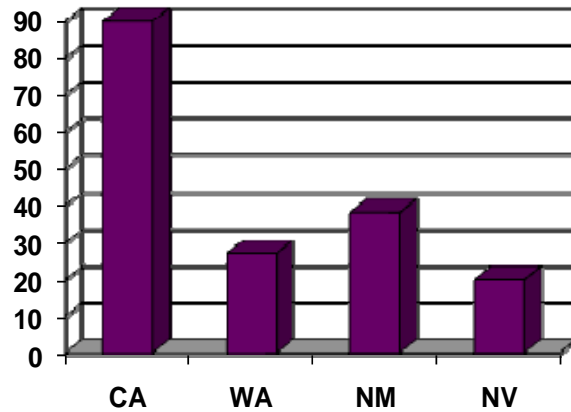
All the wrong answers in these problems are caused by looking at the wrong part of the chart.

Student Problems:

(*If teachers feel that students need more practice, ask questions based on the graphs above.*)

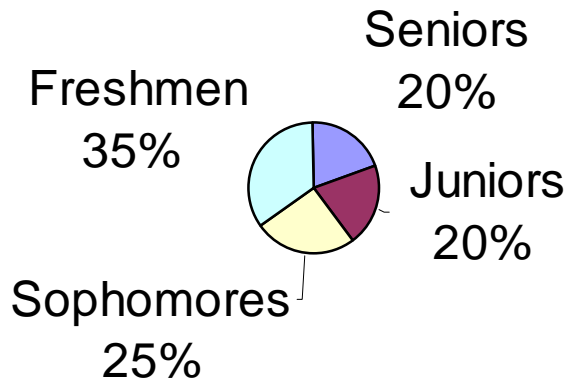
Assignment:

(*Hand out assignment sheet. Either give students time to do and then discuss their problems, or give as homework and collect the next day.*)



Approximately how many
Indian reservations are in Nevada?

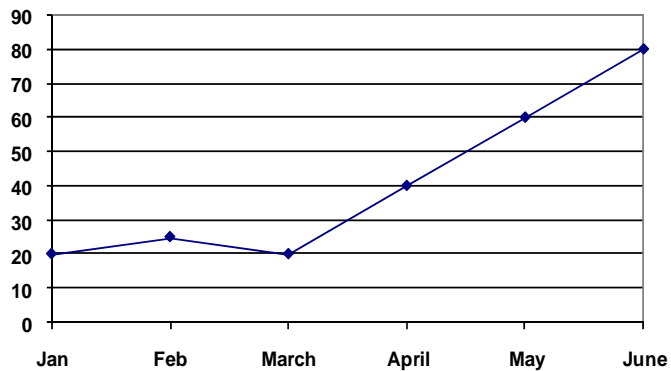
- A) 10
- B) 20
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- a. 600
- b. 500
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Share Price Fluctuation



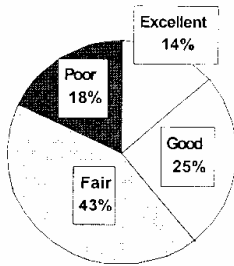
During what period did prices rise most rapidly?

- A) January - February**
- B) February - April**
- C) January - April**
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Let me show what I know!

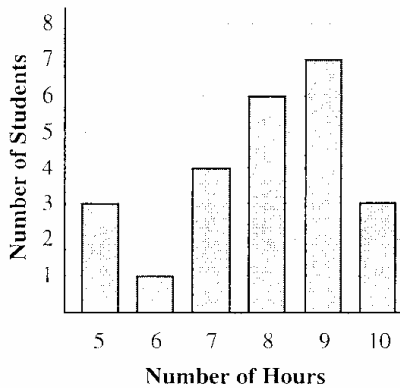
Try these problems taken from old proficiency exams.

39. A news magazine asked 1000 people to judge the President's performance in office as poor, fair, good, or excellent. The results are displayed in the graph below. How many people in the pool rated the President's performance as good or excellent?



- A. 100
- B. 140
- C. 250
- D. 390

Amount of Hours Spent Exercising

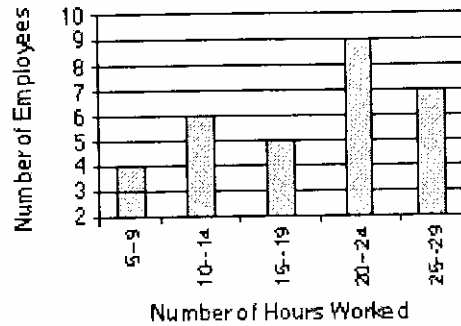


The graph above shows the results of a survey in which students were asked how many hours they exercised each week. How many students were surveyed?

- A 45
- B 36
- C 30
- D 24

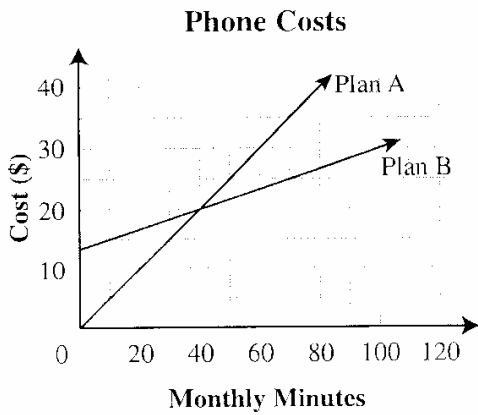
The graph below shows the number of hours worked each week by part-time employees at Clothing Emporium. Use the graph information to answer questions 24 and 25.

Clothing Emporium



24. What is the most common number of hours worked?
- A. 25-29
 - B. 20-24
 - C. 15-19
 - D. 10-14
25. What is the total number of part-time employees working at Clothing Emporium?
- A. 25
 - B. 27
 - C. 29
 - D. 31

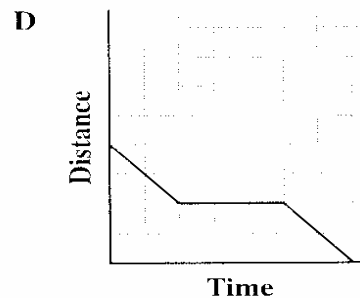
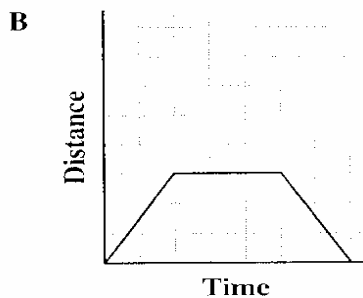
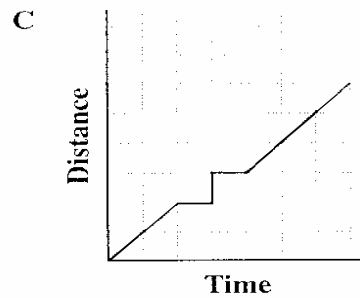
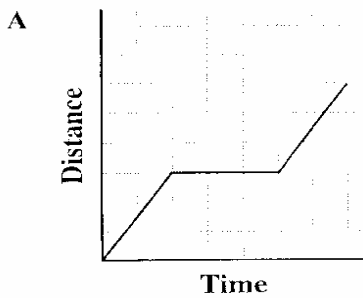
33 Use the graph below to answer the question.



The graph above shows the costs of two phone plans. How many minutes does a person need to call each month so that Plan B is the less expensive plan to use?

- A less than 10 minutes
- B more than 10 minutes but less than 20 minutes
- C more than 30 minutes but less than 40 minutes
- D more than 40 minutes

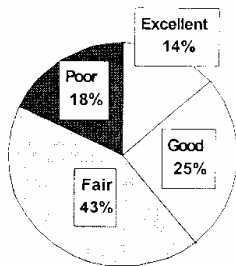
One afternoon Sam left home and walked to the library using a specific route. While at the library, he read a magazine. He then walked home at the same pace using the same route. Which graph best represents Sam's **distance from home** at any given time during that afternoon?



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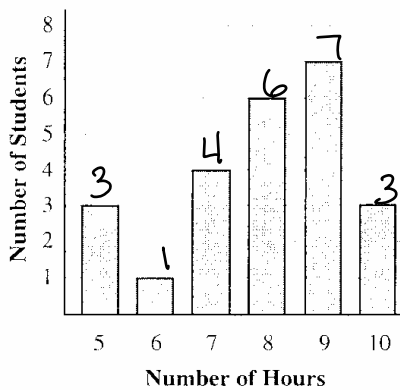
good 25%
 excel 14%

 39%
 1000
 x .39

 390

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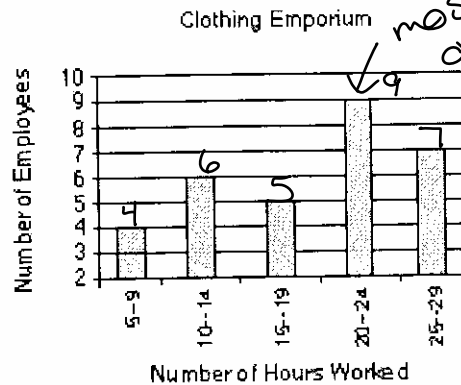
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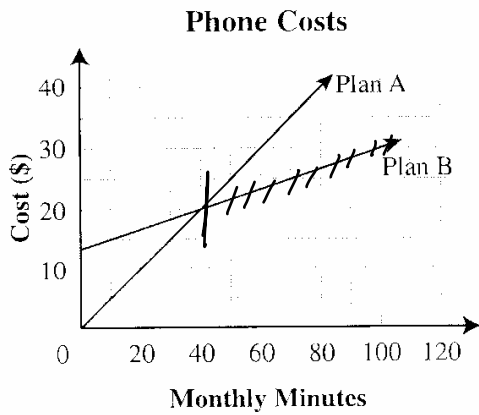
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add # of people in each column

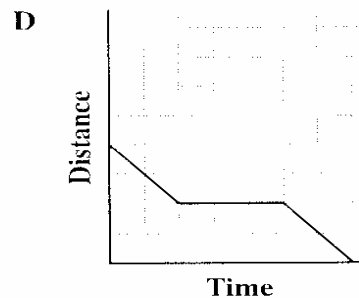
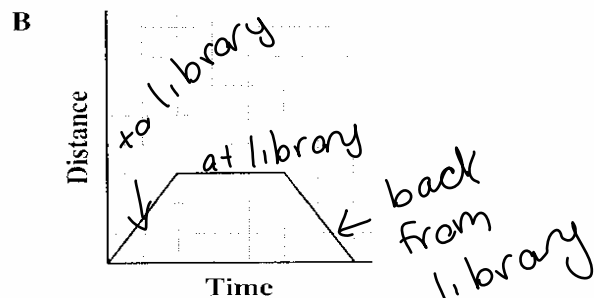
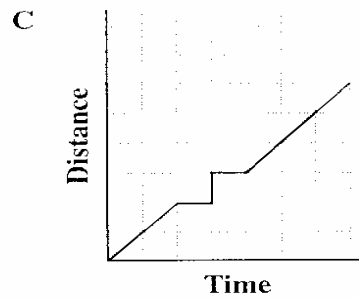
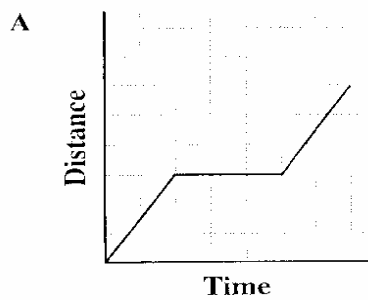
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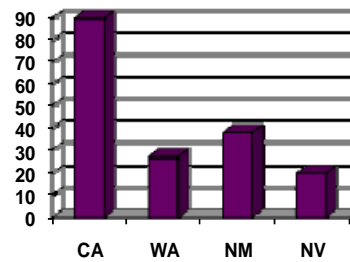
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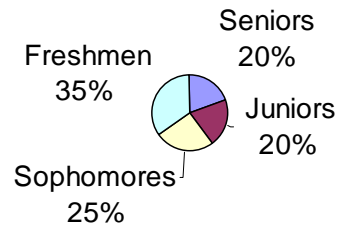
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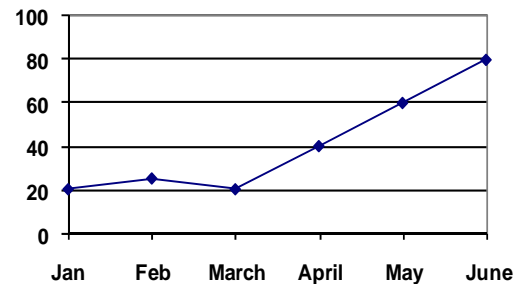
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Share Price Flucuation



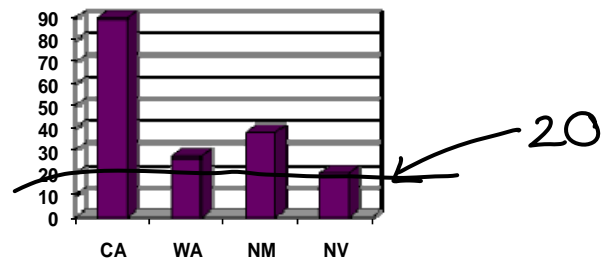
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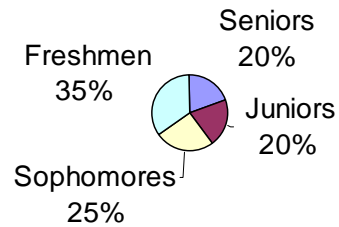
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$$\begin{array}{r} \times 2000 \\ \quad .20 \\ \hline 400.00 \end{array}$$



During what period did prices rise most rapidly?

- A) January - February $25 - 20 = 5$
- B) February - April
- C) January - April
- D) March - June $80 - 20 = 60$

Share Price Flucuation

