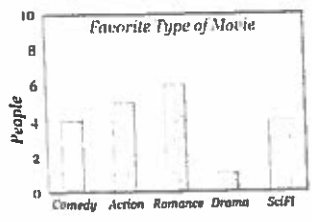
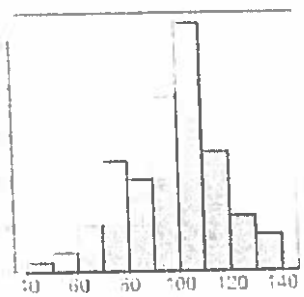
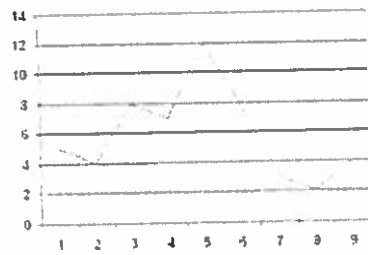


Name: Key

### Chapter 2 Practice

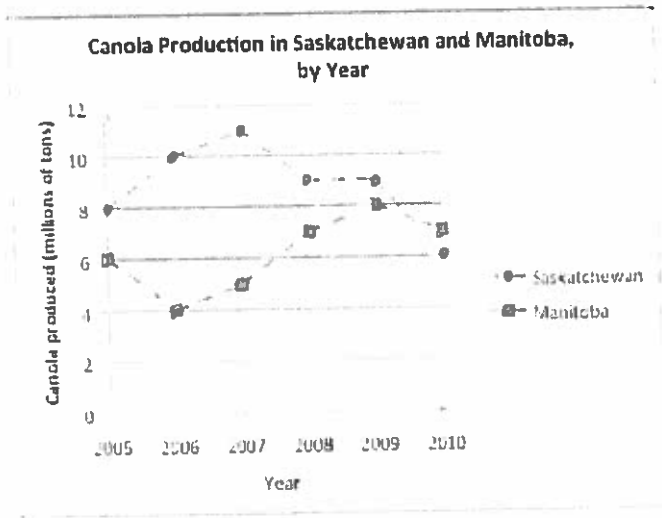
Types of Graph	Description	Picture
Bar Graph	Displays data using <u>bars</u> of different heights.	
Histogram	Data using bars of different heights.  A histogram is similar to a bar graph, however, there is also a range (it can be continuous and therefore touching)  - determines the frequency of a variable.	
Line Graph	Type of chart which displays information as a series of data points called 'markers' (dots) connected by a straight line.	

#### Interpreting Line Graphs, Bar Graphs, and Histograms.

##### Multiple Choice

1. Based on the broken line graph below, in which year was the most canola grown in Saskatchewan?

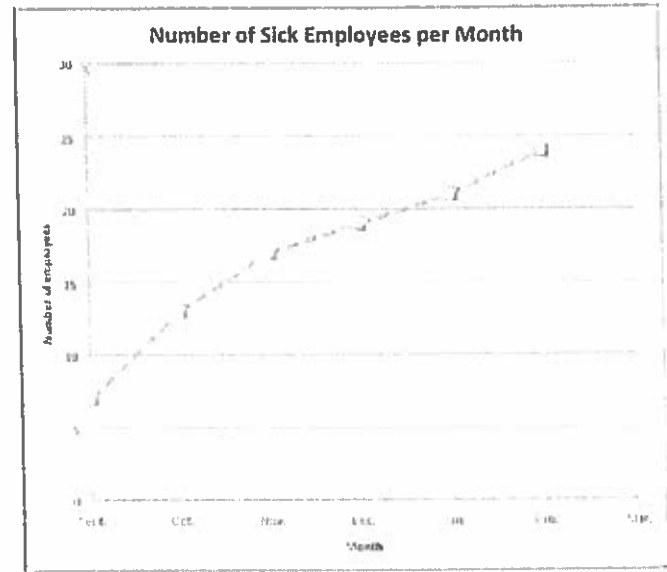
- a. 2005
- b. 2008
- c. 2007**
- d. 2009



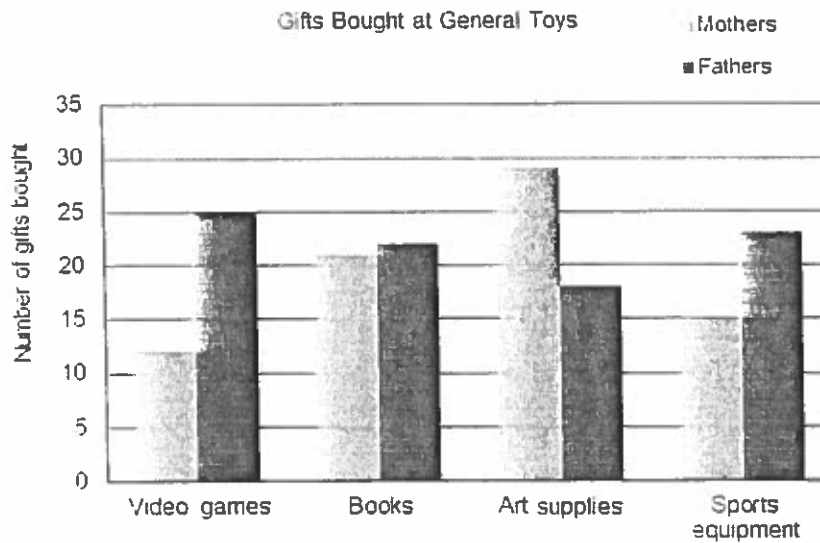
2. The following line graph shows the number of people in a company with 500 employees who took sick days over a six-month period.

Based on this graph, how many people would you expect to be sick in March?

- a. 35
- b. 24
- c. 21
- d. 27



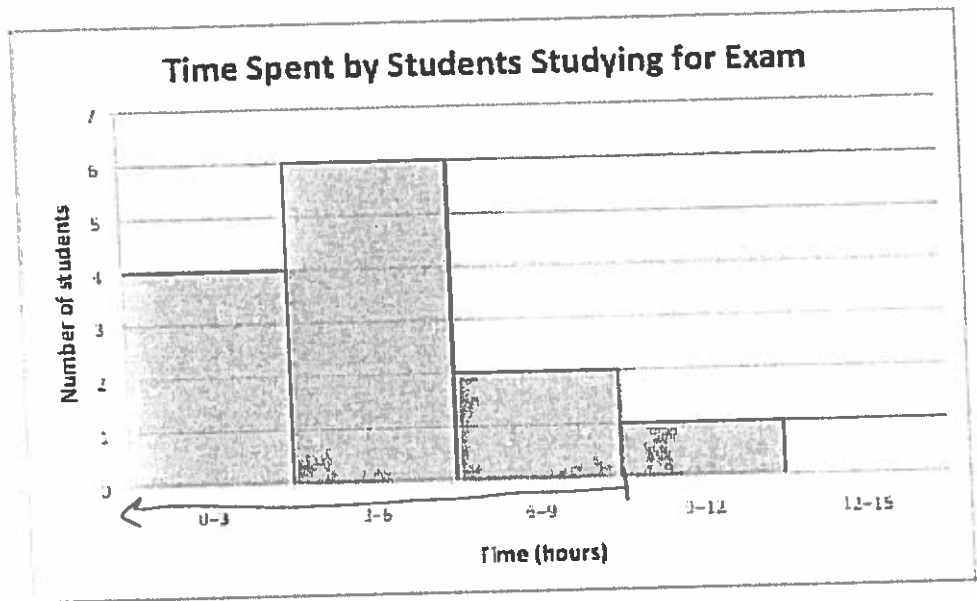
Use the following graph to answer questions 3 and 4



3. What was the most popular type of gift bought by fathers?
- a. Video Games
  - b. Books
  - c. Art Supplies
  - d. Sports Equipment
4. How many video games were bought by mothers?
- a. 29
  - b. 12
  - c. 21
  - d. 25

5. According to this histogram, how many students studied less than 9 hours?

- a. 2
- b. 1
- c. 8
- d. 12



**Short Answer**

1. Wendy has been tracking the number of new hits that she has been getting on her business' Facebook page. She wants to draw a graph to compare the months from the past year.

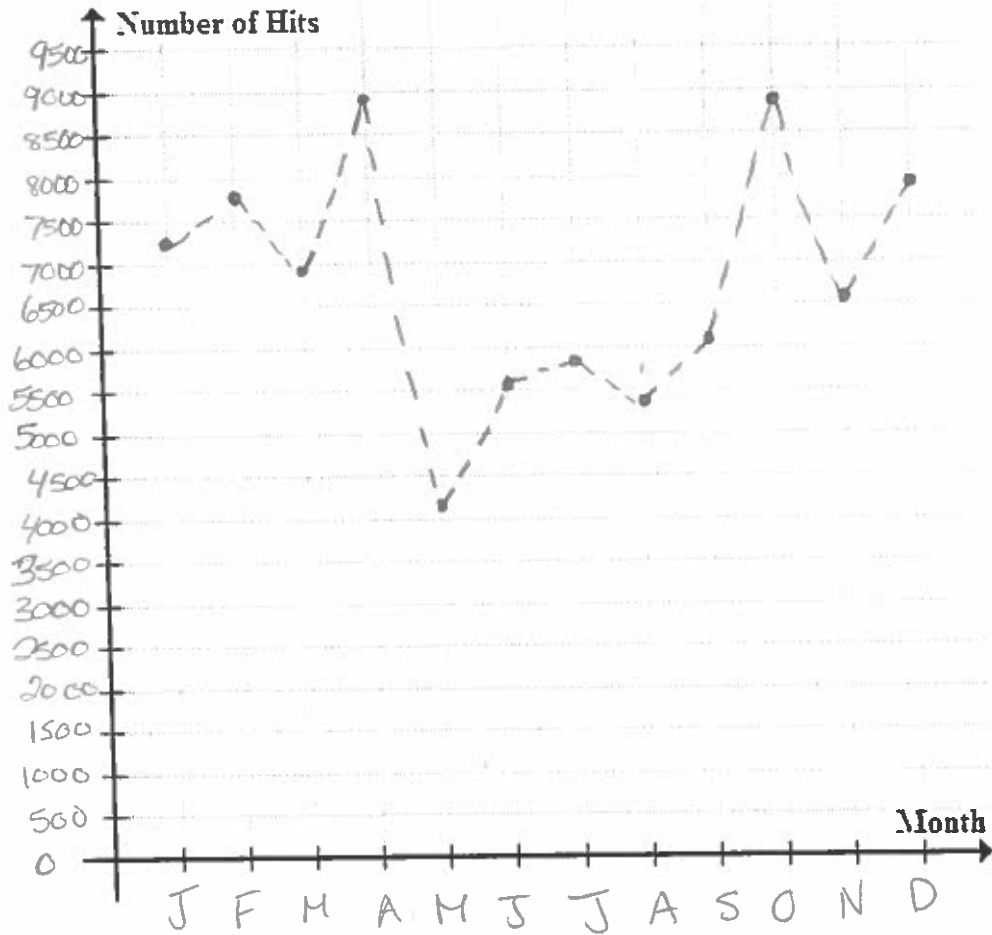
Month	# of Hits
January	7267
February	7754
March	6987
April	8956
May	4199
June	5589
July	5826
August	5432
September	6125
October	8978
November	6674
December	7932

a. What type of graph would be the best for showing this data? Explain how you know. (1 mark)

line graph or  
histogram

(continuous data, comparing each month)

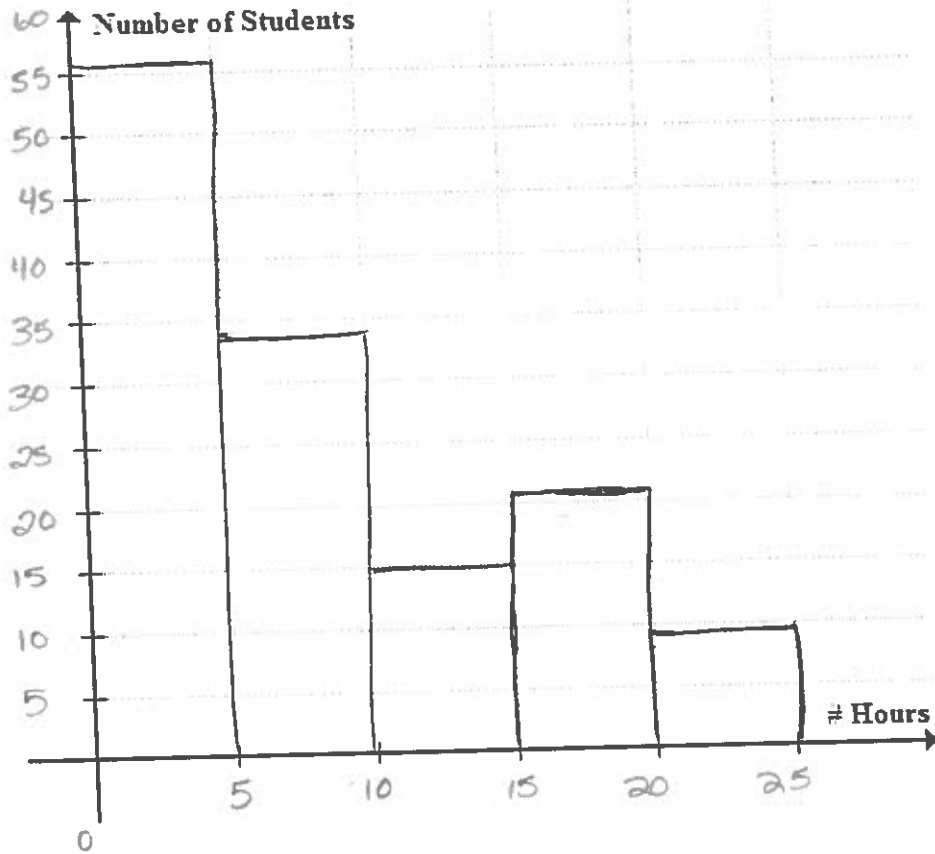
b. Draw the graph you have chosen. (3 marks)



2. A survey was taken of high school students to find out how much volunteer work they do each month. The survey results are shown in the table.

Number of Hours per month spent in Volunteer Work	
Hours	Number of Students
Between 0 and 5	56
Between 5 and 10	34
Between 10 and 15	15
Between 15 and 20	21
Between 20 and 25	9
<b>Total</b>	<b>135</b>

a. Draw a histogram to represent the data. (3 marks)



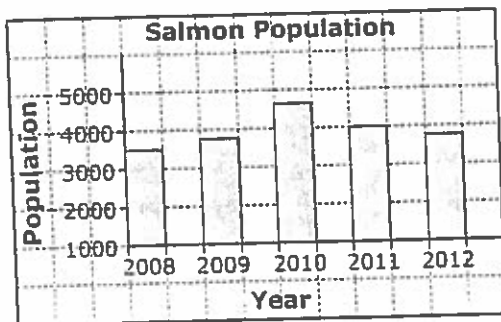
b. What percent of students said they volunteer less than 10 hours a month? (1 mark)

$$56 + 34 = 90 / 135 = 0.66\bar{6} \times 100 = 67\%$$

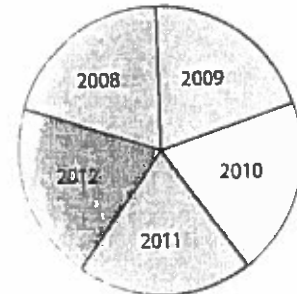
c. What percent of students said they volunteer more than 10 hours a month? (1 mark)

$$16 + 22 + 11 = 49 / 135 = 0.36\bar{3} \times 100 = 36\%$$

1. Sandra has displayed a salmon population in two graphs.



Salmon Population



← looks the same between years

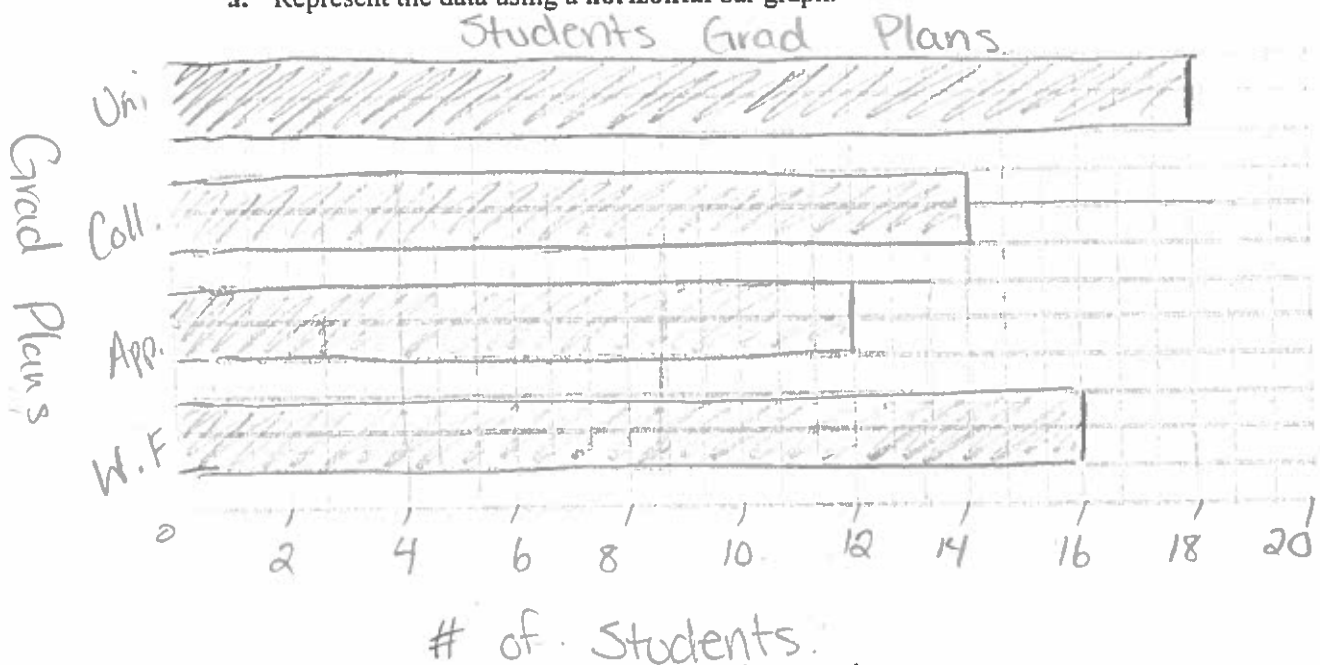
Which graph is most appropriate to represent the data? Why?

• bar graph, can determine what population of salmon there is each year.

2. Michael surveyed his class about what they plan to do after graduation. The results are shown in a table.

Graduation Plans	Number of Students
University	18
College	14
Apprenticeship	12
Work force	16

- a. Represent the data using a horizontal bar graph.



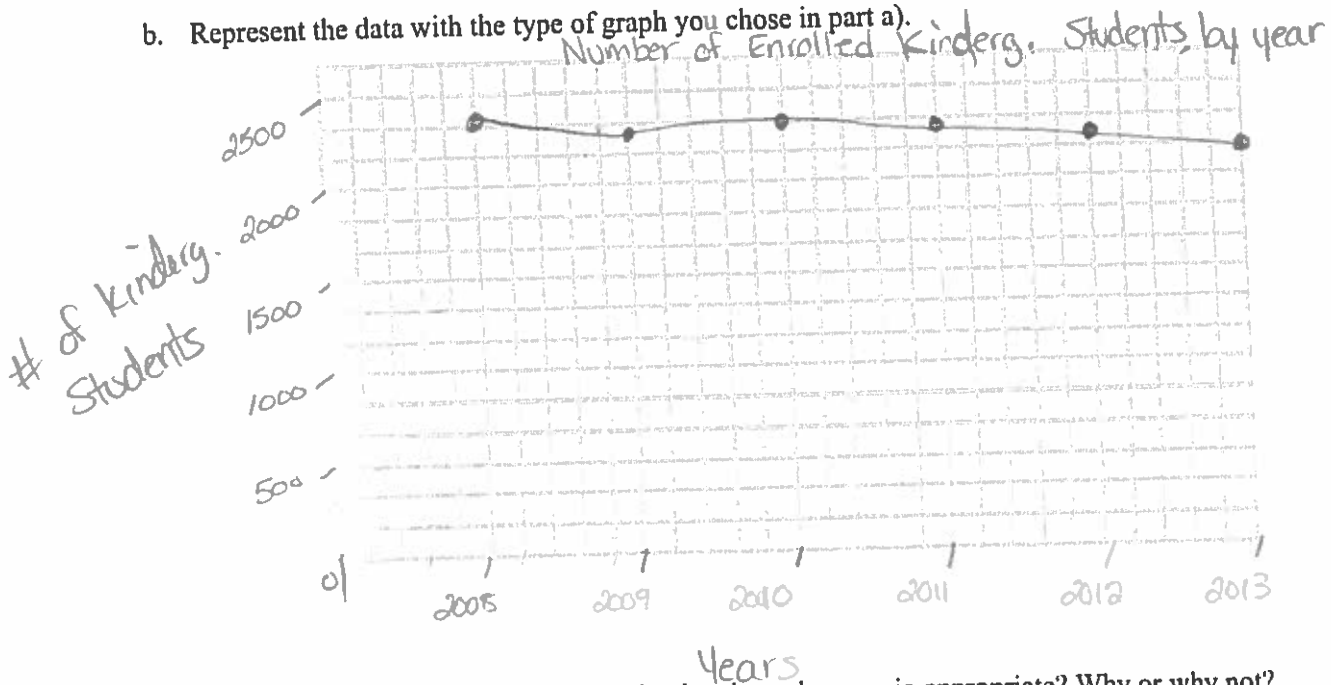
3. The school district tracks the kindergarten enrolment each year.

Year	Number of Kindergarten Students
2008	2403
2009	2375
2010	2382
2011	2363
2012	2351
2013	2286

- a. What type of graph would best represent the number of kindergarten students enrolled in the school district each year, for 6 years?

line graph. or bar graph

b. Represent the data with the type of graph you chose in part a).



4. Is the type of graph used to display the data in each scenario appropriate? Why or why not?

Samuel track the height of his new puppy over 6 months. He represents the data with a line graph.

Yes, continuous data.

Thomas creates a histrogram to represent the balance in his bank account last year.

Yes if comparing.

Bar graph would also be fine if he's not comparing.

Leslee record the number of push-ups each student finished in 1 min. She represents the data using a histrogram.

No, there is no relation between each student (Not comparing)

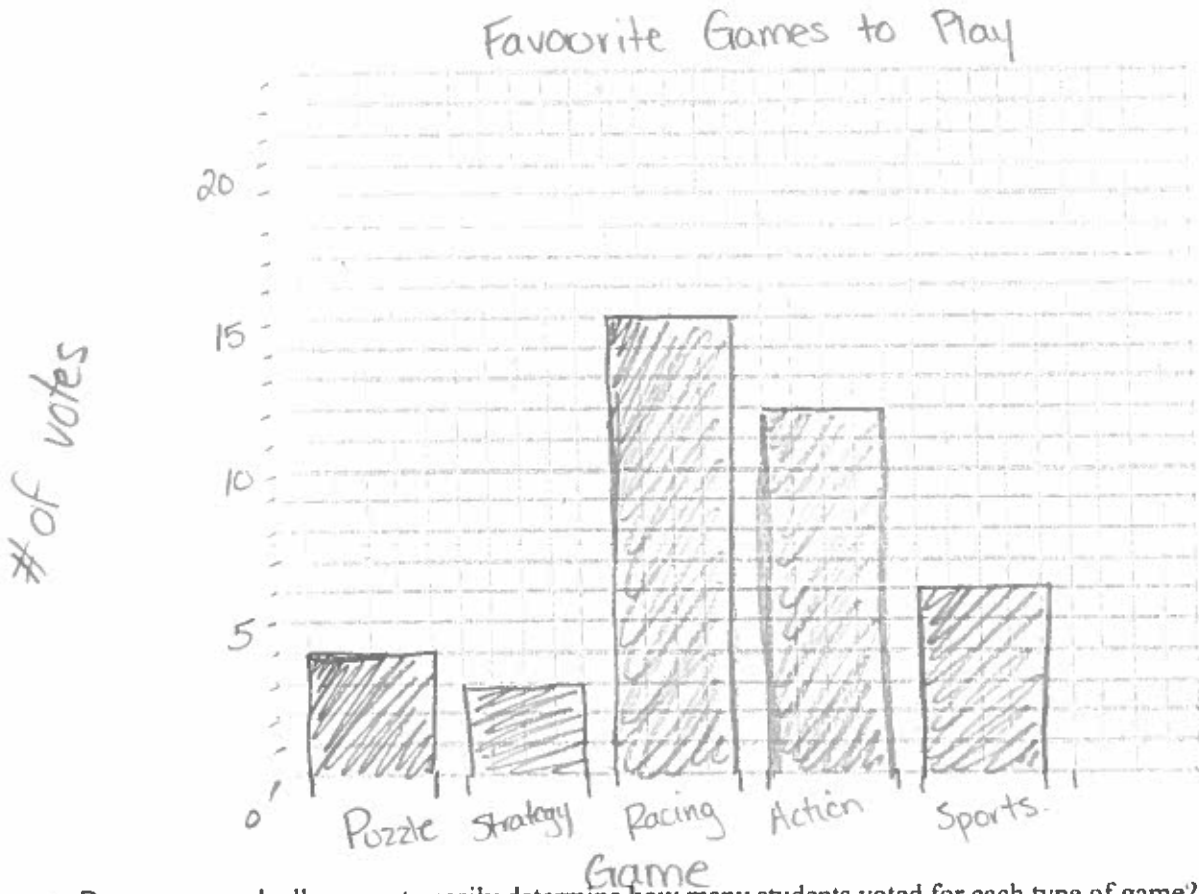
5. Ann surveyed 40 students on their favourite type of online game.

Game Type	Number of Votes
Puzzle	4
Strategy	3
Racing	15
Action	12
Sports	6

- a. What type of graph would best show that a majority of the students like racing and action online games?

bar graph

- b. Represent the survey results using the type of graph you chose in part a).



- c. Does your graph allow you to easily determine how many students voted for each type of game? Explain why or why not.

Yes, enough space to get exact values

- d. Describe one advantage and one disadvantage of your graph.

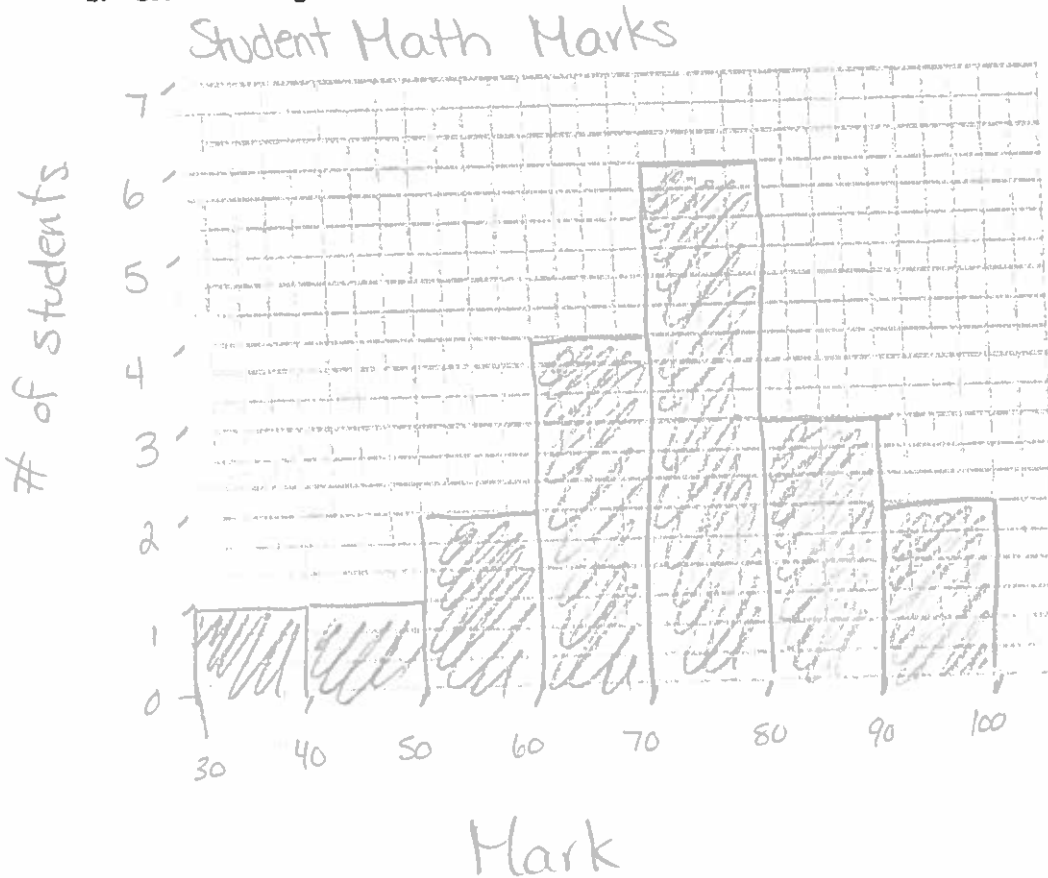


6. Students in Jay's math class received the following marks on their midterm report card.  
~~78~~, ~~88~~, ~~68~~, 82, 91, ~~78~~, ~~81~~, ~~87~~, ~~73~~, ~~88~~, ~~77~~, 93, 88, 81, ~~58~~, ~~68~~, ~~72~~, ~~75~~

a. Complete the table.

Mark Interval	Number of People	What mark interval has the greatest frequency?  70-80 with 6 students.
30 - 40	1	
40 - 50	1	
50 - 60	2	
60 - 70	4	
70 - 80	6	
80 - 90	3	
90 - 100	2	

b. Create a histogram to represent the data.



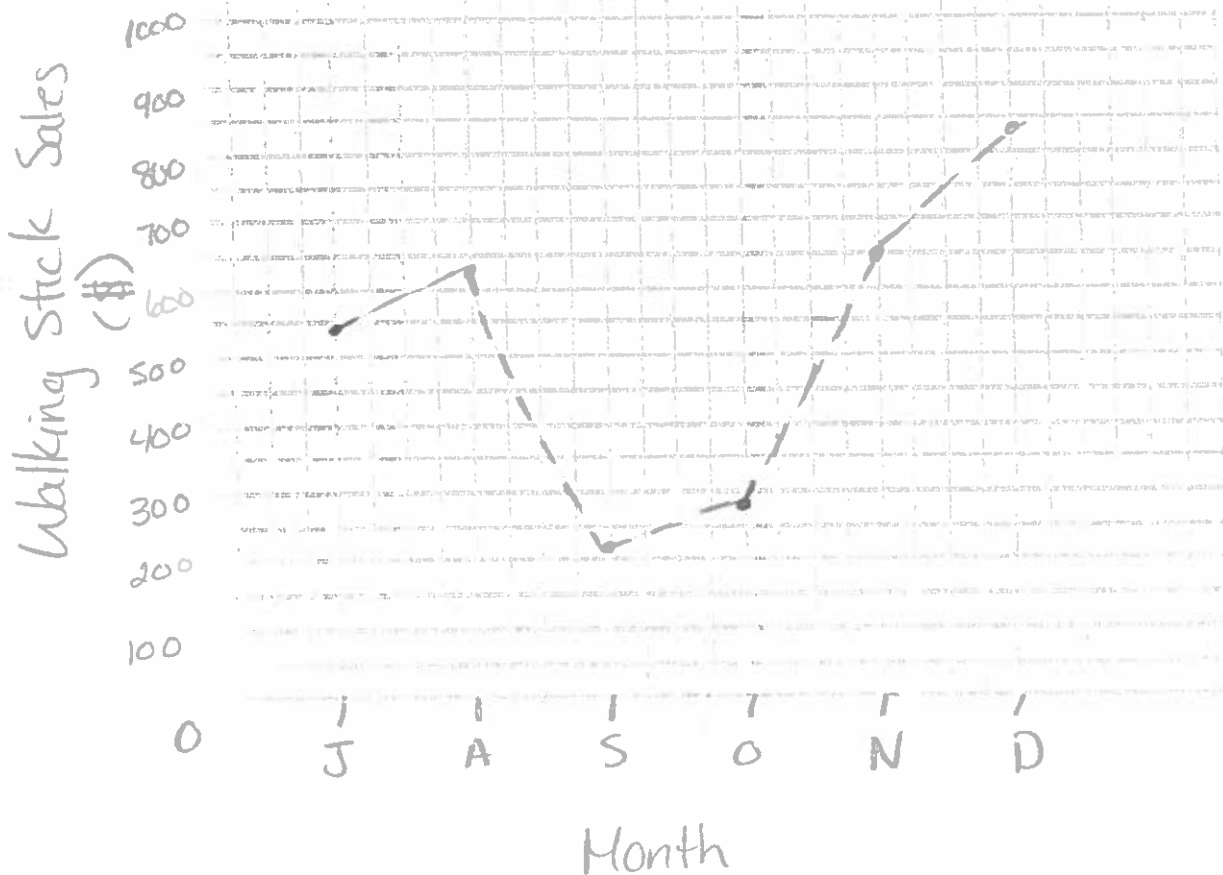
7. Richard sells hand-crafted walking sticks. He tracks his monthly sales for six months.

Month	Walking Stick Sales (\$)
July	540
August	635
September	216
October	282
November	651
December	842

a. Is the type of data Richard recorded discrete data? Why or why not?

No, he will be comparing prices by month

b. Represent the data using a line graph.

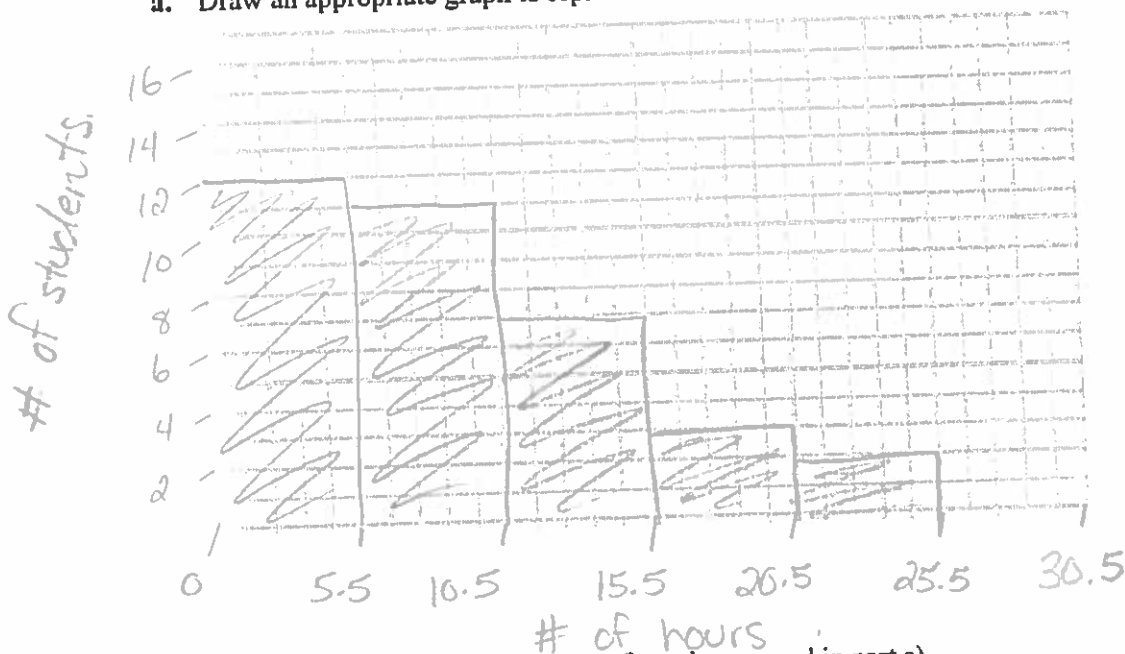


8. Edith keeps track of the number of volunteer hours worked by students in her leadership class.

Number of Hours	Tally	Frequency
0-5.5	HHH HHH II	12
5.5-10.5	HHH HHH I	11
10.5-15.5	HHH II	7
15.5-20.5	III	3
20.5-25.5	II	2

→ histogram!

a. Draw an appropriate graph to represent the data for the school principal.



b. Explain why you chose the type of graph you used in part a).

Histogram because it measures the frequency (or is continuous data)

c. The principal wants to know what percent of the class has over 10.5 volunteer hours. How should Edith respond?

Add up 10.5 - 25.5 hrs.

$$7 + 3 + 2 = 12 \text{ people}$$

d. Would another type of graph be suitable to represent the data to answer the principal's question? Why or why not?

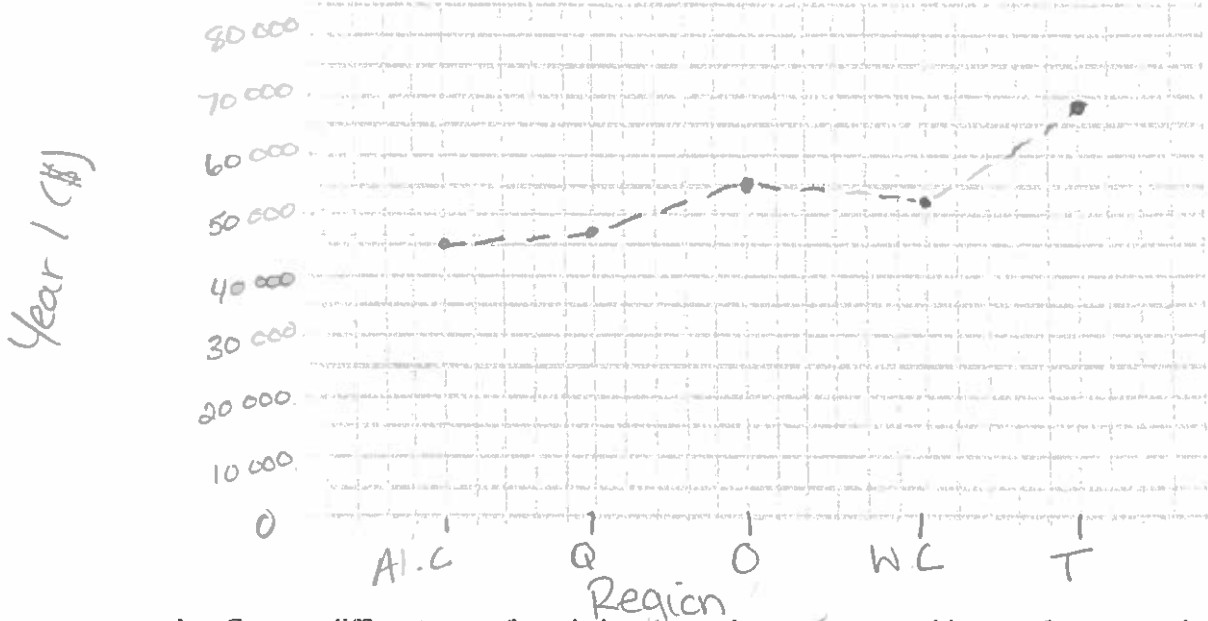
line graph because it demonstrates a relation. (continuous)

→ or circle

9. The following table shows information about average annual income, by region, for three years.

Region	Year 1 (\$)	Year 2 (\$)	Year 3 (\$)
Atlantic Canada	45 622	44 296	42 707
Québec	46 419	45 371	42 714
Ontario	55 172	60 164	60 455
Western Canada	52 819	65 546	47 733
Territories	68 864	60 220	60 779

a. Create a graph that compares the average annual income, by region, for year 1.



b. Create a different type of graph that shows the average annual income for your region for three years.

