Apprenticeship & Workplace Math 11

Tracking Sheet

Name:_____

Unit 1 *Working with Graphs*

Assignments	Completed		Date
Quizzes		Mark	
Practice Test		Completed	
Notes		Mark	
Assessment		Completed	
Unit Test:	Ready ____	Mark	
Final Grade:	Mark _____	Date	_____

Unit 2 *Managing Your Money*

Assignments	Completed		Date
Quizzes		Mark	
Practice Test		Completed	
Notes		Mark	
Assessment		Completed	
Unit Test:	Ready ____	Mark	
Final Grade:	Mark _____	Date	_____

Unit 3 *Investing and Borrowing Money*

Assignments	Completed		Date
Quizzes		Mark	
Practice Test		Completed	
Notes		Mark	
Assessment		Completed	
Unit Test:	Ready ____	Mark	
Final Grade:	Mark _____	Date	_____

Unit 4 *Trigonometry*

Assignments	Completed		Date
Quizzes		Mark	
Practice Test		Completed	
Notes		Mark	
Assessment		Completed	
Unit Test:	Ready ____	Mark	
Final Grade:	Mark _____	Date	_____

Unit 5 *Slope and Rates of Change*

Assignments	Completed		Date
Quizzes		Mark	
Practice Test		Completed	
Notes		Mark	
Assessment		Completed	
Unit Test:	Ready ____	Mark	
Final Grade:	Mark _____	Date	_____

Unit 6 *Scale Representations*

Assignments	Completed		Date
Quizzes		Mark	
Practice Test		Completed	
Notes		Mark	
Assessment		Completed	
Unit Test:	Ready ____	Mark	
Final Grade:	Mark _____	Date	_____

Unit 7 *Surface Area, Volume, and Capacity*

Assignments	Completed		Date
Quizzes		Mark	
Practice Test		Completed	
Notes		Mark	
Assessment		Completed	
Unit Test:	Ready ____	Mark	
Final Grade:	Mark _____	Date	_____

FINAL GRADE: _____ %

Date _____ Signed_____

Self Assessment

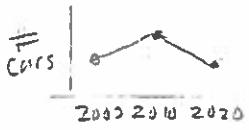
In the following chart, show how confident you feel about each statement by drawing one of the following: ☺, 😐, or ☹. Then discuss this with your teacher ***BEFORE*** you write the test!

Statement	☺ 😐 ☹
After completing this chapter;	
• I can determine the types of graphs that can be used to represent given data	
• I can explain the advantages and disadvantages of different types of graphs	
• I can create a bar graph, a broken line graph, a histogram, and a circle graph	
• I can interpret bar graphs, broken line graphs, histograms, and circle graphs in order to answer questions about the data	
• I can discuss the trends a graph represents for a given set of data	
• I can explain how different graphs of the same data can be used to be misleading	

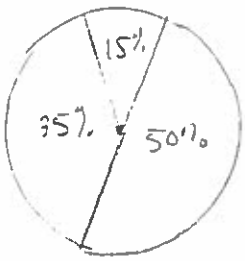
Vocabulary: Unit 1

angle
bar graph
broken line graph
circle graph
histogram
statistics
trend

broken line graph: displays info over time. Points are joined with individual line segments creating a broken line



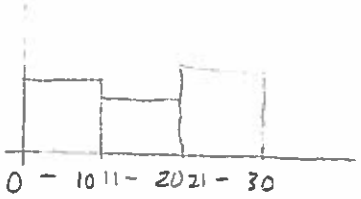
circle graph: shows comparison (pie chart)



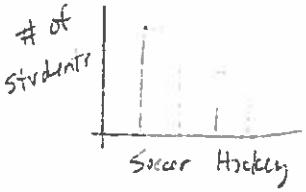
angle: the space between two intersecting lines; measured in degrees.

ex  ≈ 30° angle

histogram: a bar graph showing continuous data



bar graph: a visual representation to show comparison.

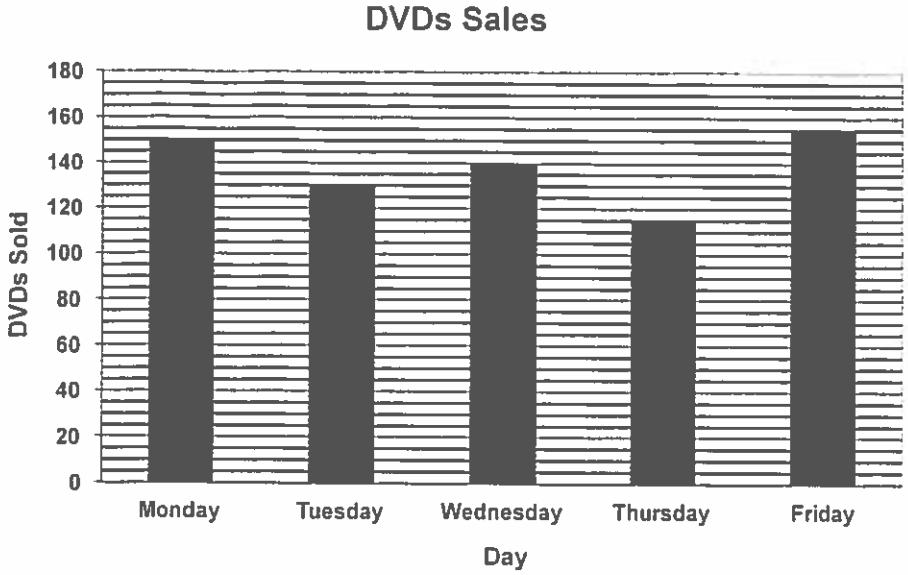


statistics: math that works with data.
- collecting, organizing, displaying + interpreting data.

trend: in general (big picture) how is data changing over time or which option is more popular

ASSIGNMENT 2 – BAR GRAPHS

1) Use this bar graph to answer the following questions.



How many DVDs were sold on:

½ mark each

a) Monday? 150

b) Tuesday? 130

c) Wednesday? 140

d) Thursday? 115

e) Friday? 155

On which days were:

f) More than 130 DVDs sold? M, W, F

g) 120 or more DVDs sold? M, T, W, F

h) Fewer than 130 DVDs sold? R

i) 150 or fewer DVDs sold? M, T, W, R

Were more DVDs sold on:

j) Monday or Wednesday? M

k) Tuesday or Thursday? T

l) Wednesday or Friday? F

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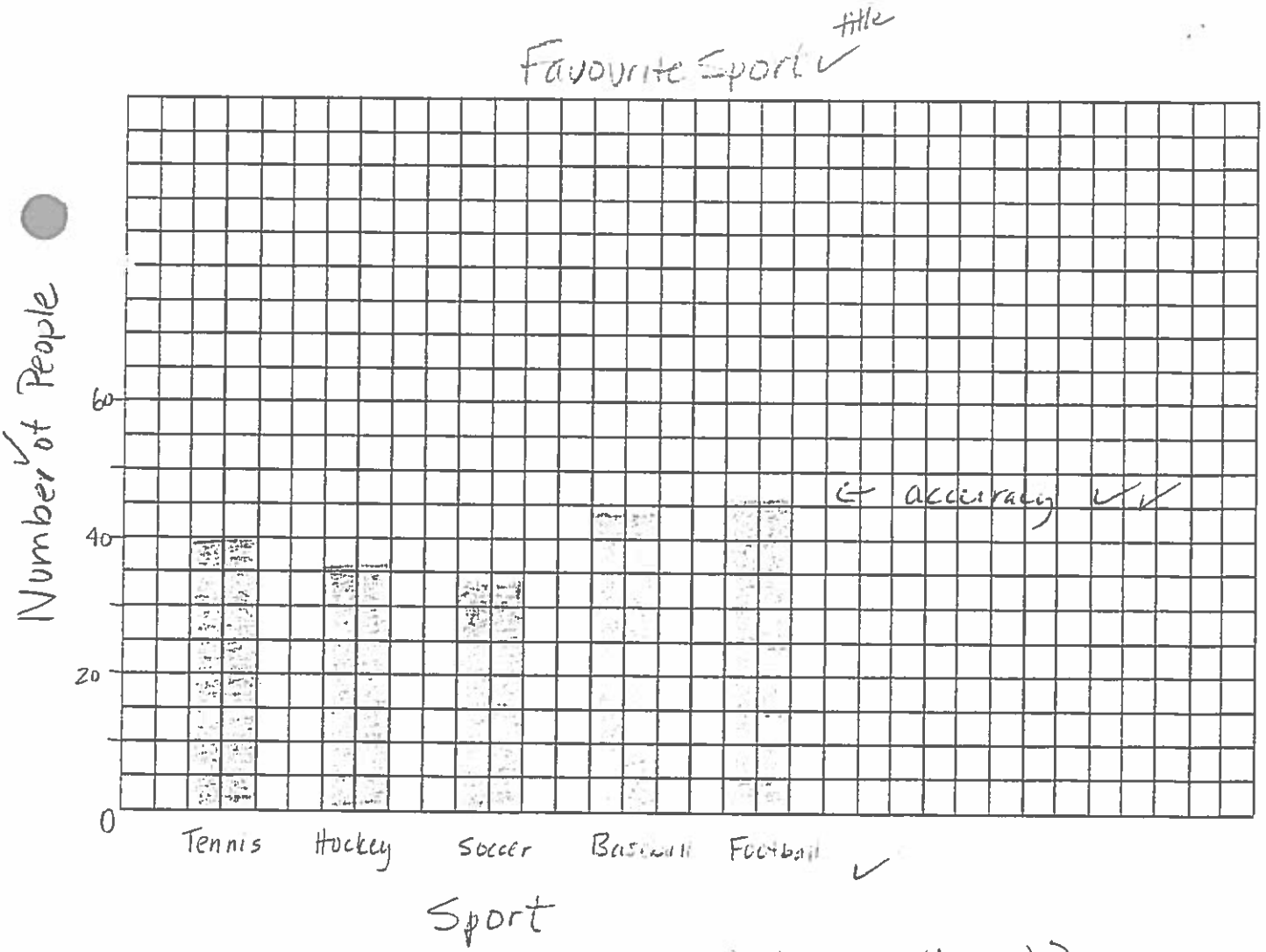
2) Create a bar graph for each of the following sets of data. Use the graph paper given below the chart of data. Plan your graph carefully so it fits on the graph paper and is not too small.

Favourite Sport

Sport	Number
Tennis	40
Hockey	36
Soccer	34
Baseball	44
Football	46

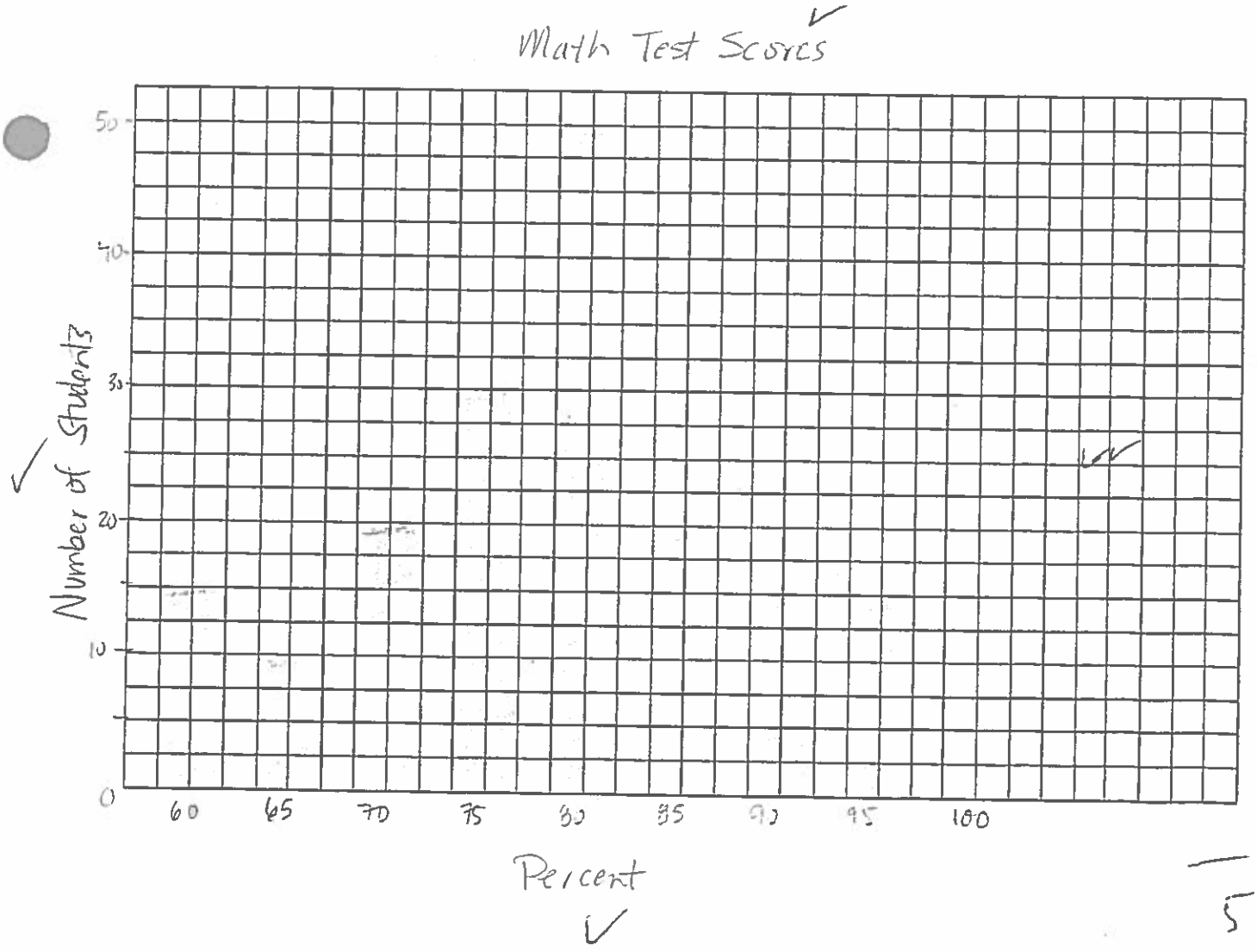


axis labeled (½ each)
axis titled (½ each)
} x2

8 /5

Math Test Scores

Test Score	Number of students
60	15
65	10
70	20
75	30
80	50
85	20
90	5
95	15



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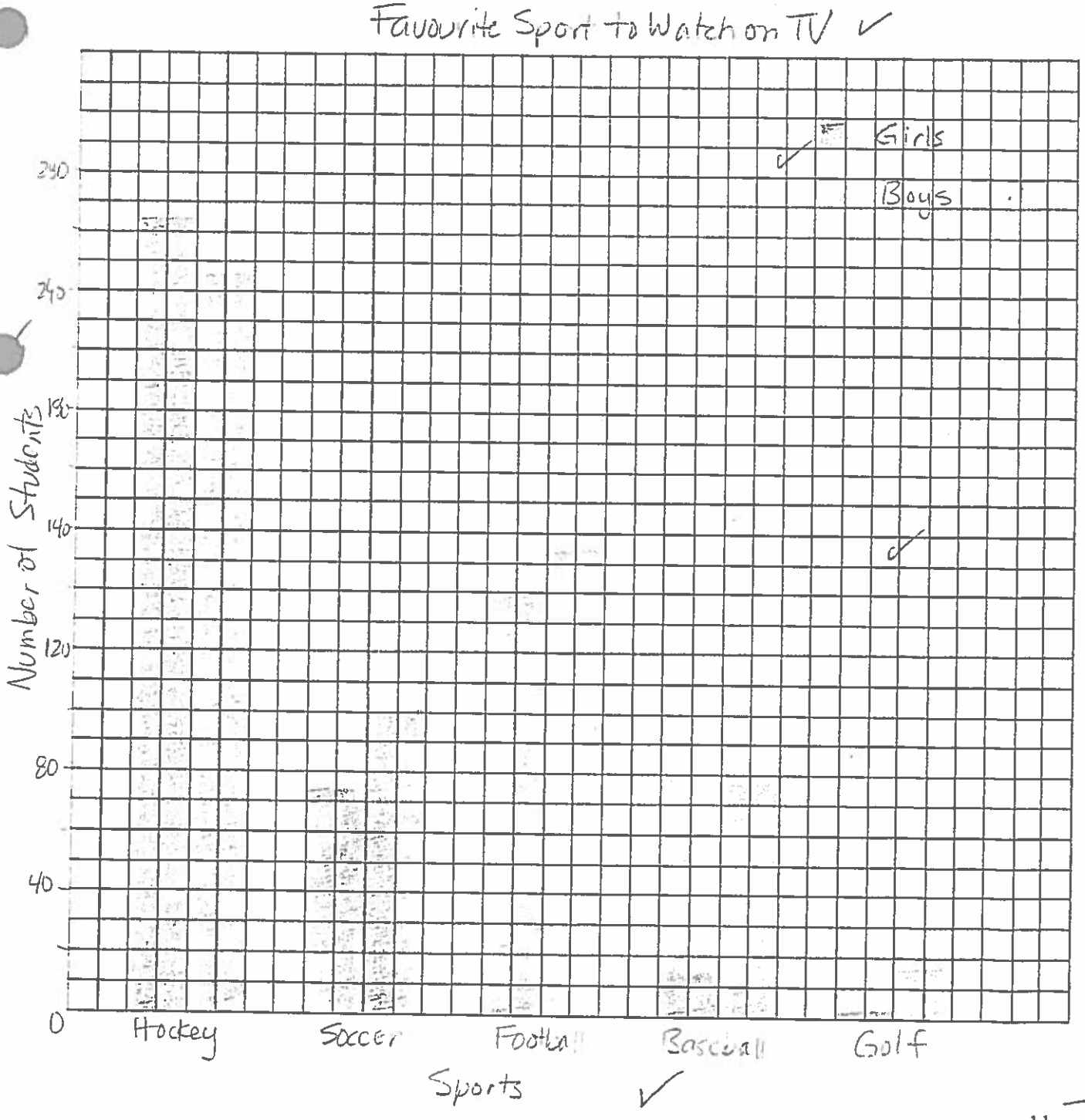
ASSIGNMENT 3 – DOUBLE BAR GRAPHS

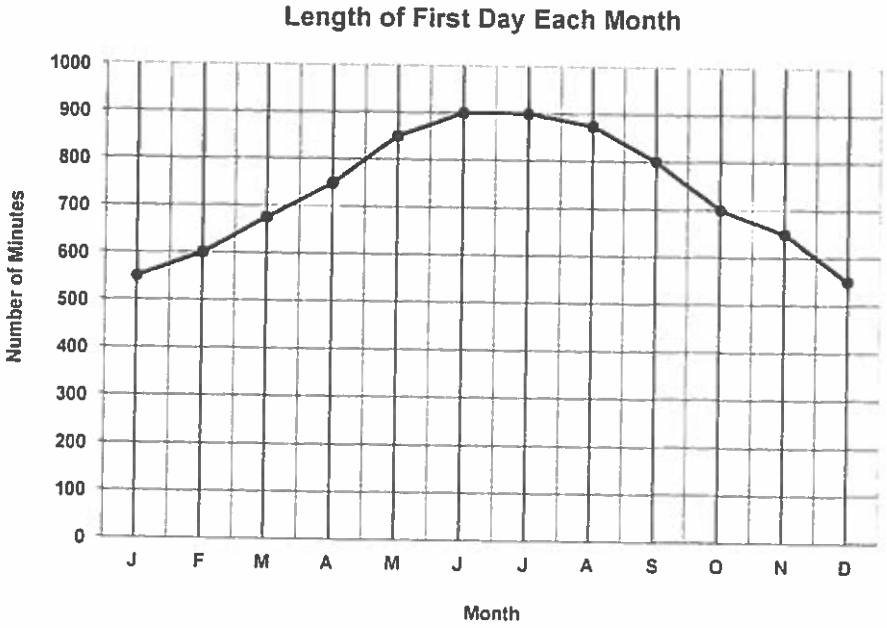
1) George did a survey at his school to find out what each student's favourite sport was to watch on TV. The results are in the chart. Draw a double bar graph to represent this data on the graph paper below.

Favourite Sport to Watch on TV					
Sport	Hockey	Soccer	Football	Baseball	Golf
Boys	243	101	135	79	18
Girls	265	75	121	15	2



ASSIGNMENT 4 – BROKEN LINE GRAPHS

1) Use the broken-line graph above to answer the following questions.



During which months does the graph show the first day to be:

a) 800 minutes or more minutes? M, J, J, A, S ½ mark each

b) 750 or fewer minutes? J F M A O N D

c) Shorter than 600 minutes? Jan Dec.

d) Longer than 850 minutes? J J A

e) 700 or more minutes? A M J J A S O

Was the first day longer in:

f) March or September? S

g) May or September? M

h) April or October? A

i) June or August? J

j) February or November? N

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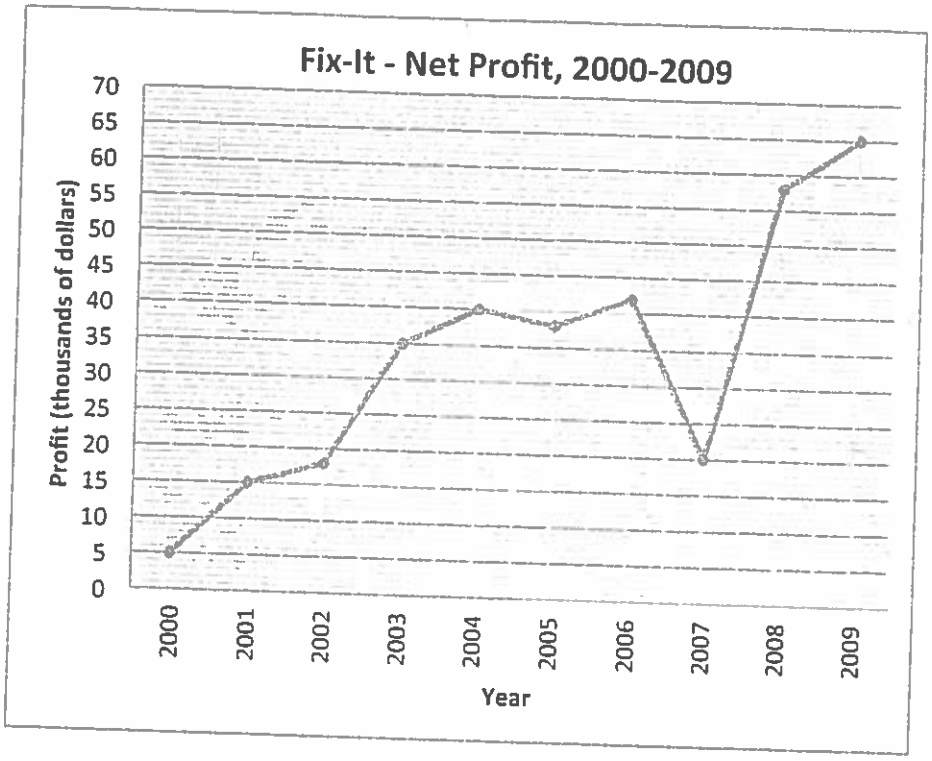
2) Jacob runs his own Fix-It company. He plotted his company's recent profits in a graph shown below. Use the graph to answer the next questions.



a) What does the graph display?

annual net profits, 2000-2009 ✓

b) Describe the general trend in company's profits over the timeframe that the graph displays.

Profits increased over this timeframe ✓

c) Are there any exceptions to the overall trend in the company's profits? Explain.

- a substantial decline in profit in 2007 ✓ ½ each
- a slight decline in profit in 2005 ✓

otherwise, net profit increased every other year.

-✓

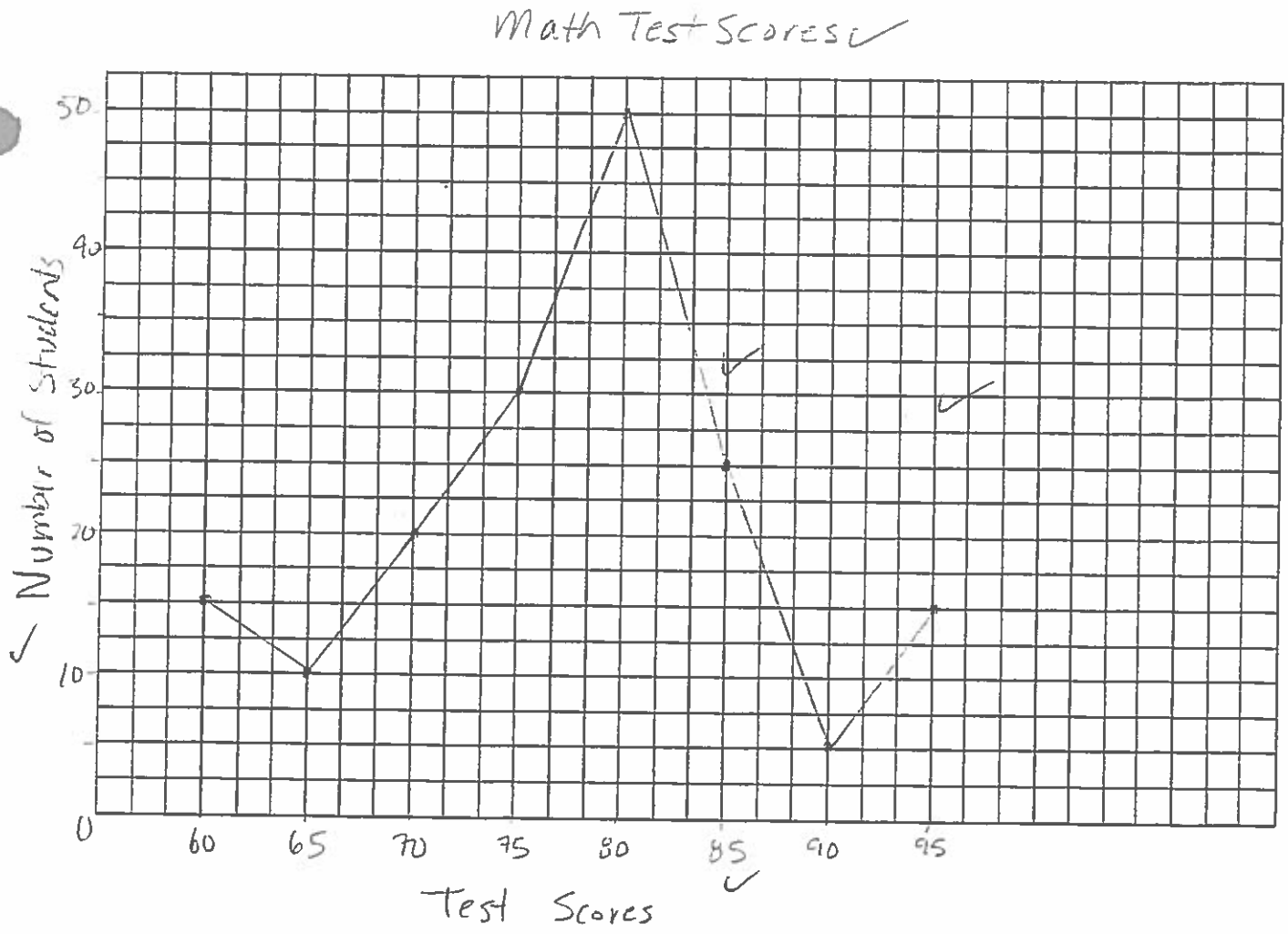
 3

3) Create a broken-line graph for the following set of data. Plan your graph carefully so it fits on the graph paper but is not too small.

Math Test Scores

Test Score	Number of Students
60	15
65	10
70	20
75	30
80	50
85	25
90	5
95	15

NOTE: The "Test Score" goes on the horizontal axis while the "Number of Students" goes on the vertical axis.



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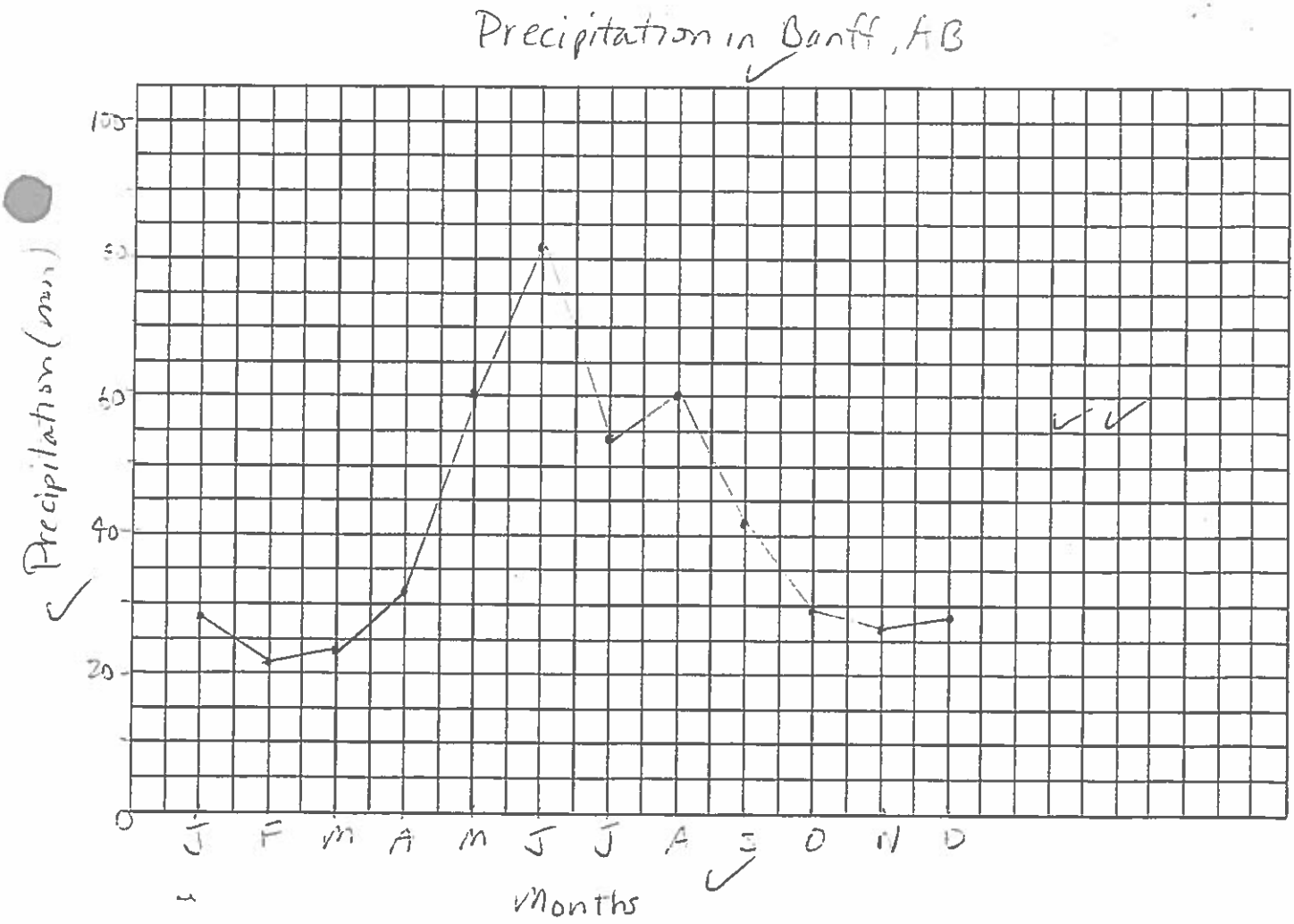
4) Create a broken-line graph for the following set of data. Plan your graph carefully so it fits on the graph paper but is not too small.

Monthly Precipitation in Banff, Alberta												
Month	*J*	*F*	*M*	*A*	*M*	*J*	*J*	*A*	*S*	*O*	*N*	*D*
Precipitation (mm)	28	22	23	32	60	82	54	60	42	29	27	28



ASK YOUR TEACHER FOR QUIZ 1

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ASSIGNMENT 5 – INTERPRETING HISTOGRAMS

Use the data in the following histograms to answer the questions. one mark / question

1. What are the classes in this histogram? List them.

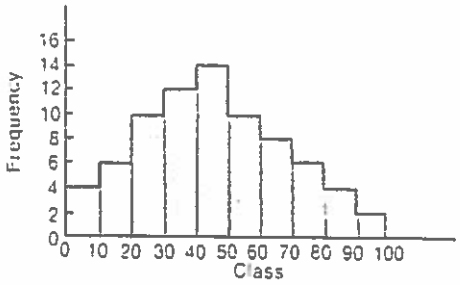
0-10, 10-20, 20-30, 30-40 ... 90-100

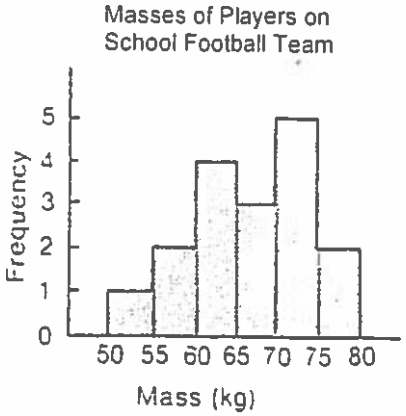
2. In which class (or interval) does the most data occur?

40-50

3. In which class (or interval) does the least data occur?

90-100





4. How many students have a mass between 55 and 60 kg?

2

5. How many students have a mass between 70 and 75 kg?

5

6. How many students have a mass of less than 70 kg?

(1+2+4+3) 10

7. How many students have a mass of 70 kg or more?

(5+2) 7

8. How many students are on the football team?

17

9. How many classes are there in this histogram?

6

10. What are the classes?

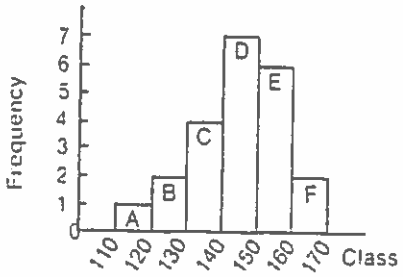
110-120, 120-130 ... 160-170

11. In which class does the greatest frequency occur?

140-150 (D)

12. Which 2 classes have the same frequency?

120-130 (B), 160-170 (F)



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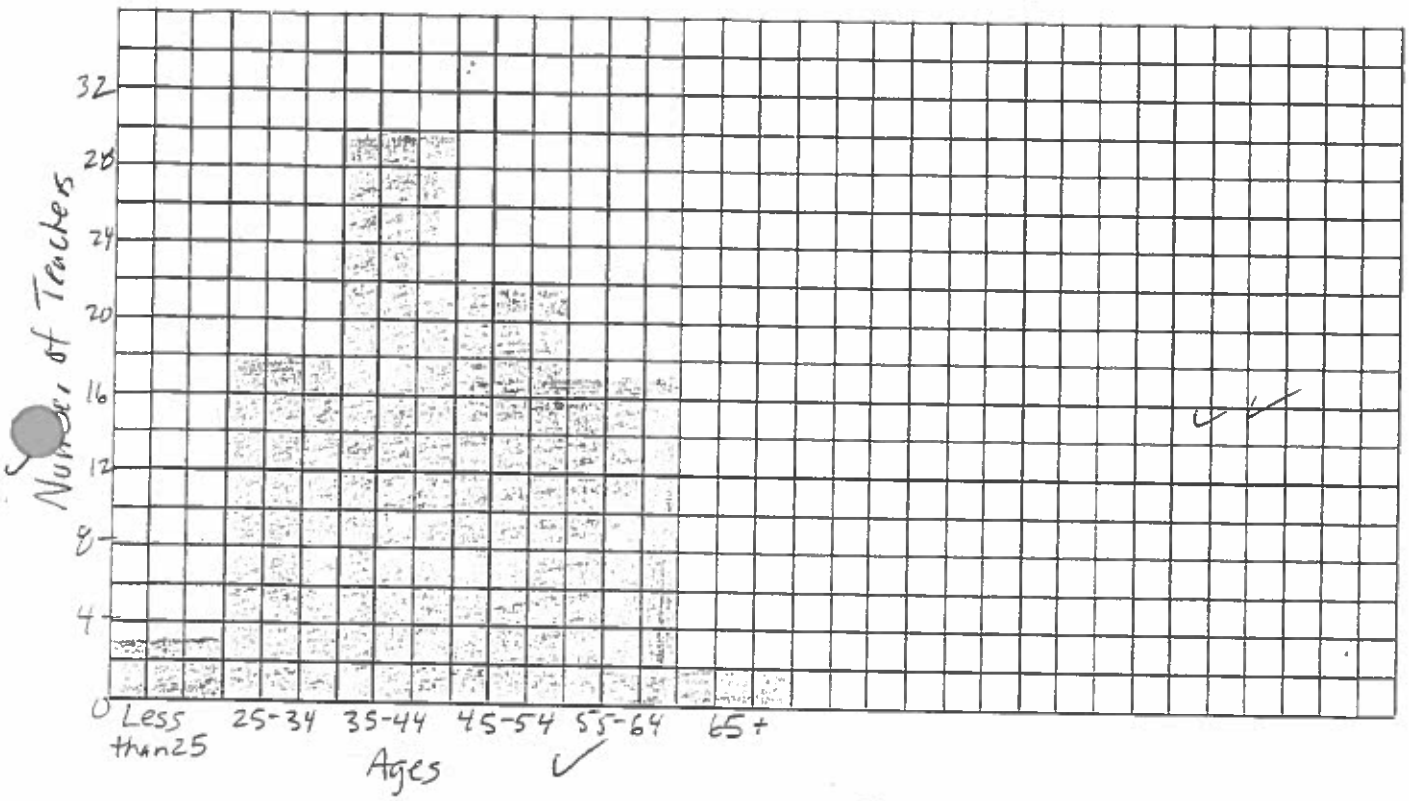
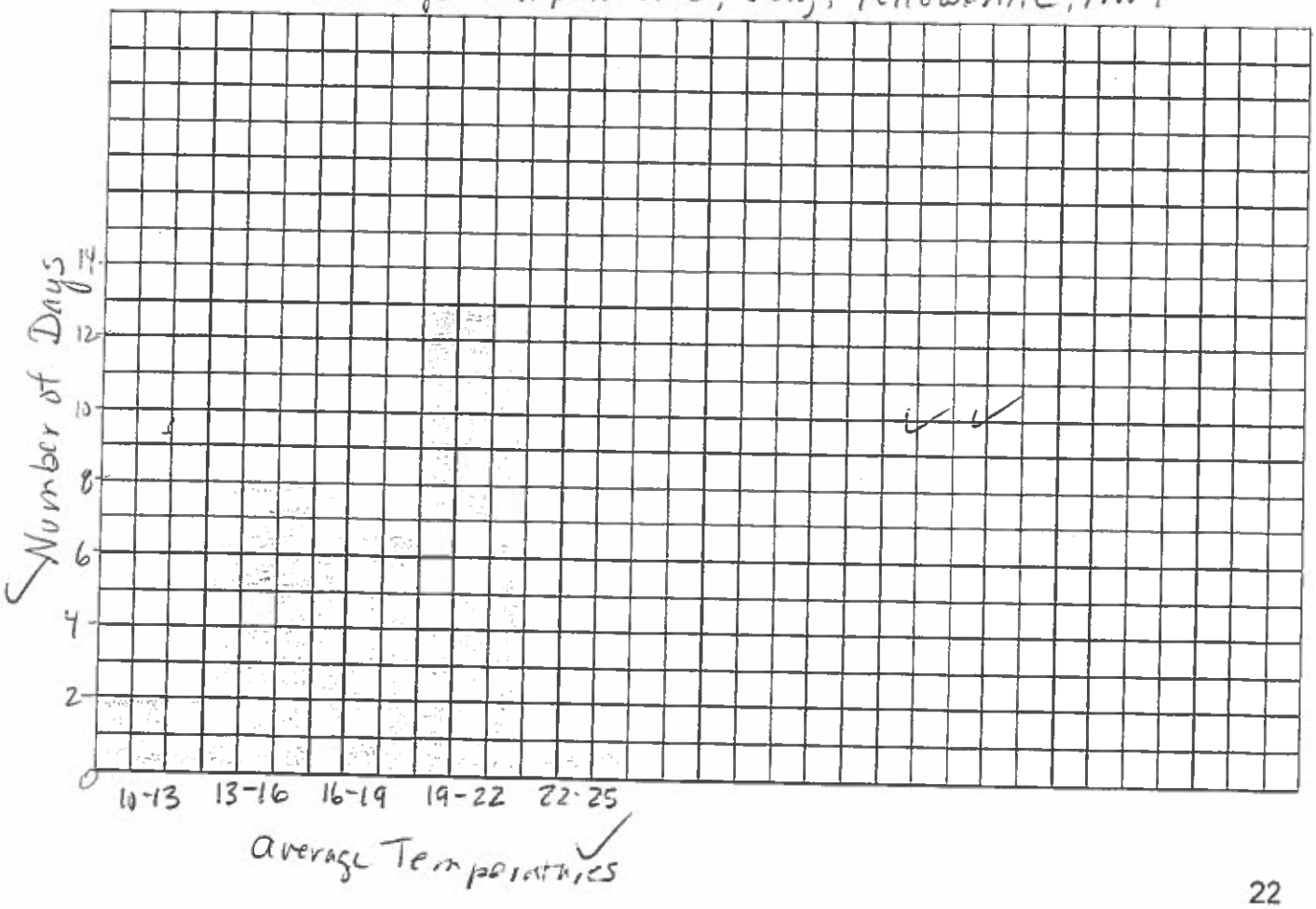
Teachers' Ages @ Central High School



Average Temperatures, July, Yellowknife, NWT



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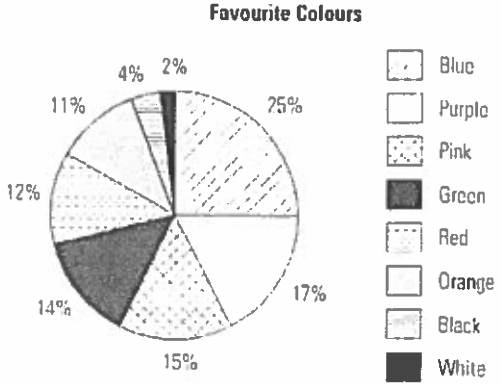
ASSIGNMENT 7 – INTERPRETING CIRCLE GRAPHS

1) The circle graph of Favourite Colours was created after several students surveyed their grade. There were 175 students surveyed.



a) What colour did most students respond was their favourite?

blue ✓

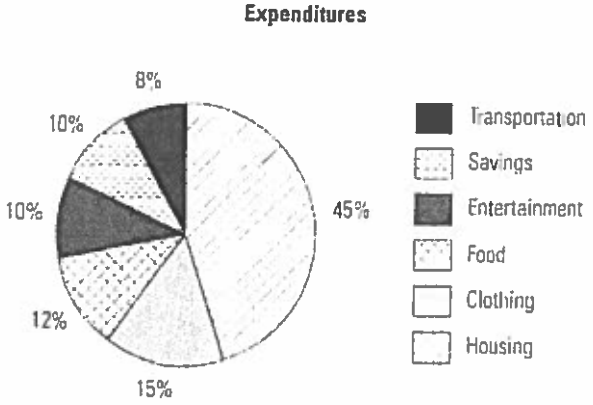
b) What was the least favourite colour?

white ✓

c) How *many* students responded that red was their favourite colour?

12% 0,12 × 175 = 21 students ✓ or $\frac{12}{100} = \frac{x}{175}$

2) Grace's expenses are shown in this circle graph.



a) What two expenses did she spend the same amount on? 10% on savings and entertainment ✓

b) Which expense does she spend the most on? housing (45%) ✓

c) What is her combined percentage spent on clothing and food?

15% + 12% = 27% ✓

d) If she saves $275.00 each month, how much does she earn?

10% on savings

$\frac{10}{100} = \frac{275}{x}$ $2750/mo earnings ✓

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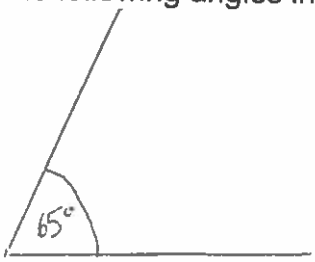
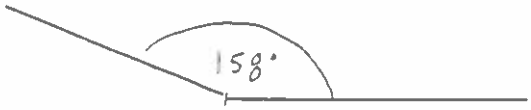
ASSIGNMENT 8 – DRAWING ANGLES

Construct the following angles in the space below.

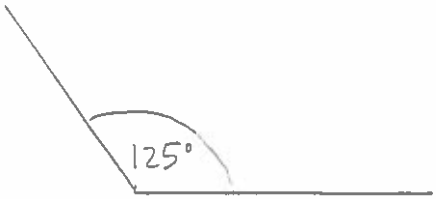
1) 65^0



2) 158^0



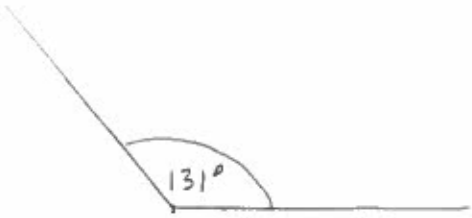
3) 125^0



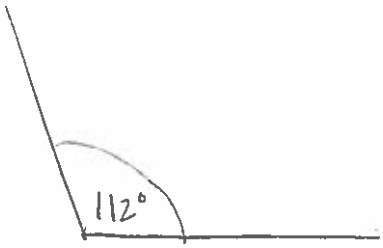
4) 90^0

5) 11^0

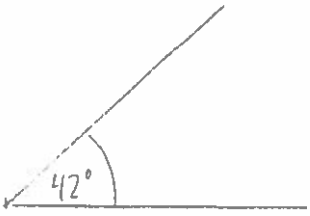
6) 131^0



7) 112^0



8) 42^0



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ASSIGNMENT 9 – CREATING CIRCLE GRAPHS

Construct a circle graph to show each set of data.

1) Type of Pet

Pet	Percentage	Calculation	Angle
Cat	30	0.3 × 360	108°
Dog	34	0.34 × 360 = 122.4	122°
Mouse/Rat	4	0.04 × 360 = 14.4	14°
Gerbil	13	0.13 × 360 = 46.8	47°
No pet	19	0.19 × 360 = 68.4	68°
Total	100%		359 ← due to rounding

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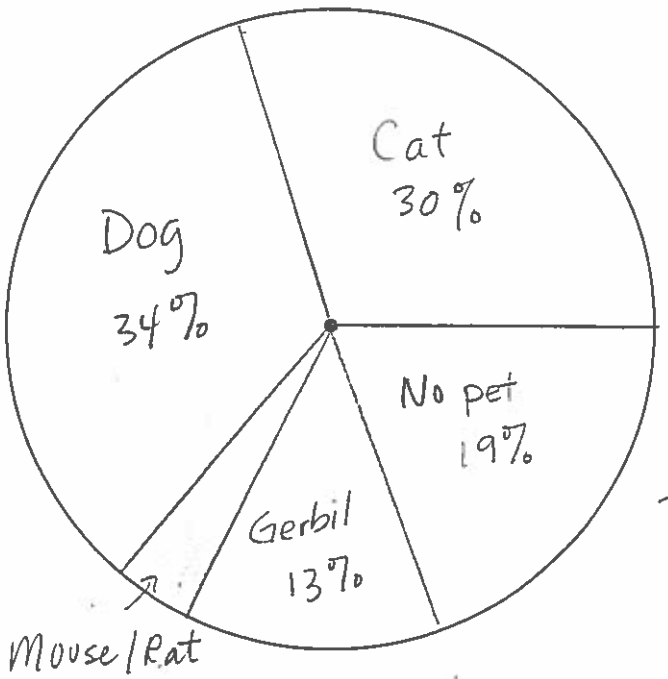
Type of Pet



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title ✓
accuracy ✓✓
sections labeled ✓
percents labeled ✓
neatness ✓

/10

2) Transportation to School $\frac{12}{200} = \frac{x}{100}$, $x = 6$, $\frac{6}{100} = 6\%$

Method of Travel	Number of People	Percentage of Total People	Angle Calculation	Angle
Drive	12	$\frac{12}{200} = 0.06 = 6\%$	$0.06 \times 360 = 21.6$	22°
Ride from parent	63	$\frac{63}{200} = 0.315$ 32%	$0.315 \times 360 = 113.4$	113°
Carpool	20	$\frac{20}{200} = 0.1$ 10%	$0.1 \times 360 = 36$	36°
Motorbike	5	$\frac{5}{200} = 0.025$ 3%	$0.025 \times 360 = 9$	9°
Bus	75	$\frac{75}{200} = 0.375$ 38%	$0.375 \times 360 = 135$	135°
Bicycle	10	$\frac{10}{200} = 0.05$ 5%	$0.05 \times 360 = 18$	18°
Walk	15	$\frac{15}{200} = 0.075$ 8%	$0.075 \times 360 = 27$	27°
Total	200	100% 102%	360°	360°

due to rounding

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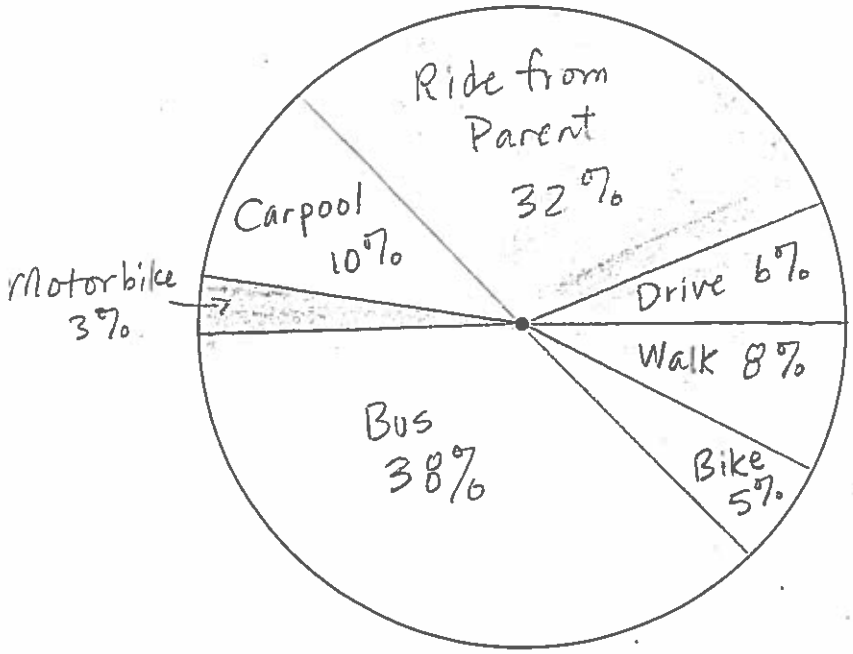
Transportation to School



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accuracy ✓✓
sections labeled ✓
percents labeled –
neatness ✓
title

30 16

3) Daily Activities

Sleep: 8 hrs
Meals: 2 hrs
School: 4 hrs
Relaxation: 2.5 hrs
Job: 5 hrs
Travel: 1.5 hrs
Homework: 1 hr

Activity	Time (hrs)	% of Total Time		Angle Calculation	Angle
Sleep	8	$\frac{8}{24} = 0.33$	33%	$0.33 \times 360 = 118.8$	119°
School	4	$\frac{4}{24} = 0.1\bar{6}$	17%	$0.1\bar{6} \times 360 = 59.98$	60°
Job	5	$\frac{5}{24} = 0.2083$	21%	$0.208 \times 360 = 74.88$	75°
Homework	1	$\frac{1}{24} = 0.041\bar{6}$	4%	$0.042 \times 360 = 15.12$	15°
Meals	2	$\frac{2}{24} = 0.08\bar{3}$	8%	$0.08 \times 360 = 29.8$	29°
Relaxation	2.5	$\frac{2.5}{24} = 0.104$	10%	0.10×360	36°
Travel	1.5	$\frac{1.5}{24} = 0.0625$	6%	$0.0625 \times 360 = 22.5$	23°
Total	24h	100%	99% (due to rounding)	360°	360° (357° rounding)

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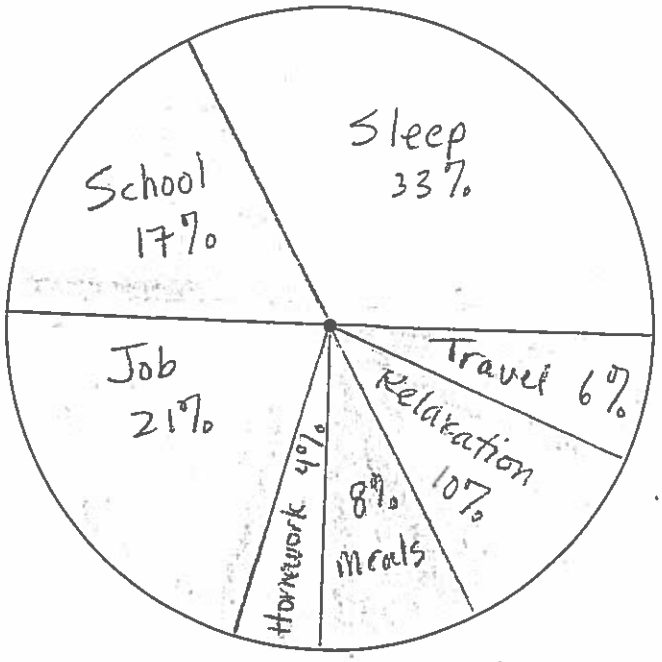
Daily Activities



5

title
accuracy
sections labeled
percents labeled
neatness

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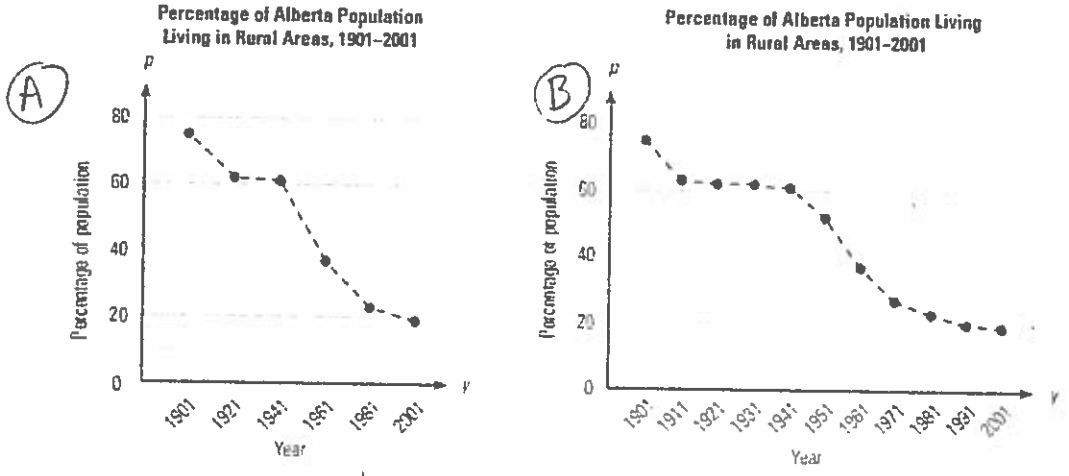
ASSIGNMENT 10 – MISLEADING GRAPHS

1) Think about the two graphs below. They show the same data plotted in different ways.



a) Which of the graphs makes it appear that the drop in the population living in rural areas was faster? Why is this?

Graph A : the scale on the horizontal axis is squished ✓

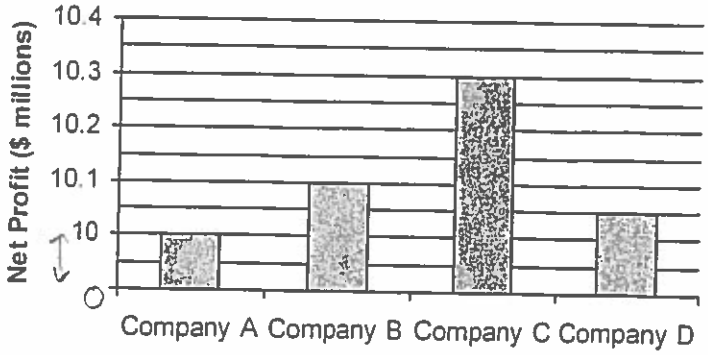
b) Which graph do you think is a better representation of the actual change in the rural population? Why is this?

Graph B: the scale on the horizontal axis is smaller (less space between increments) and therefore is a better representation of the data. ✓

c) In what year was the population half rural and half urban?

1951 (50% lived in rural areas) ✓

2) Is this graph misleading? Why or why not.



✓ yes, there is a gap between 0 and 10 on vertical axis.

- the scale is incorrect ✓ as there is the same distance between 0 and 10 as there is between 10 and 10.1

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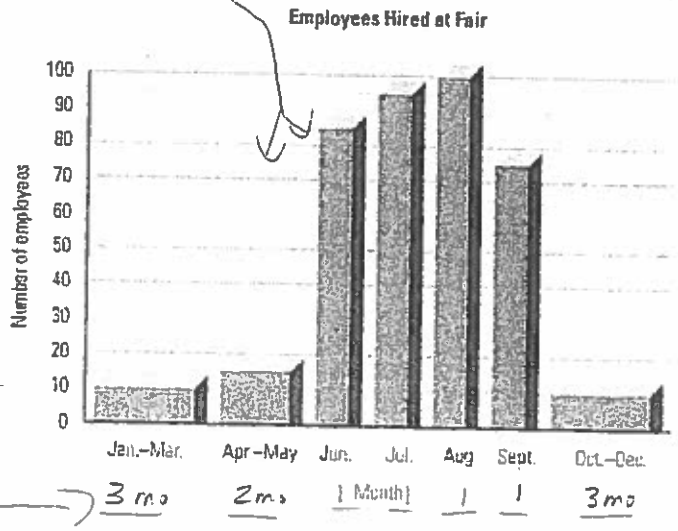
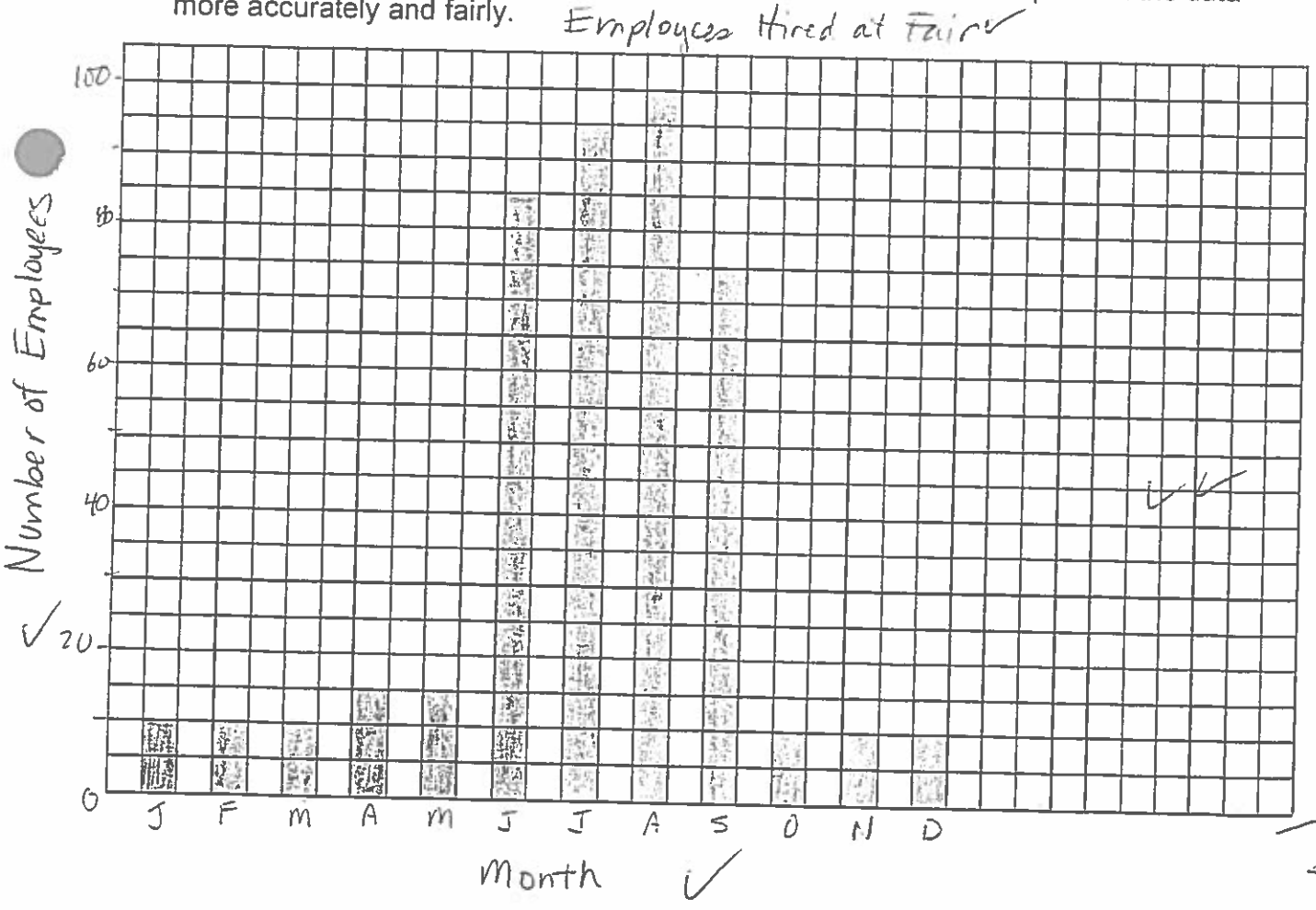
3) Is this graph misleading? Why or why not.

yes!
- bars are different ✓ widths
- scale is inconsistent ✓ on horizontal axis
* makes it appear like # of employees is greater



2

4) On the grid below, create a bar graph for question #3 that would represent the data more accurately and fairly.



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ASK YOUR TEACHER FOR QUIZ 2

Unit 1 Review