connect ECONOMICS

1. Award: 10.00 points

(i) A frequency table is a grouping of qualitative data into mutually exclusive classes showing the number of observations in each class.
(ii) Simple bar charts may be constructed either horizontally or vertically.
(iii) A relative frequency table shows the fraction or percent of the number of observations in each class.

- → ○ (i), (ii) and (iii) are all correct statements.
- ○ (i) and, (ii) are correct statements but not (iii).
- ○ (i) and, (iii) are correct statements but not (ii).
- ○ (ii) and, (iii) are correct statements but not (i).

References

Multiple Choice	Learning Objective: 02-01 Create a frequency table for a set of data.
Difficulty: Hard	Learning Objective: 02-02 Organize data into a bar chart.

2. Award: **10.00 points**

(i) A frequency table is a grouping of qualitative data into mutually exclusive classes showing the number of observations in each class.
(ii) Simple bar charts may be constructed either horizontally or vertically.
(iii) A bar chart is a graphic representation of a frequency table.

- → ○ (i), (ii) and (iii) are all correct statements.
- ○ (i) and, (ii) are correct statements but not (iii).
- ○ (i) and, (iii) are correct statements but not (ii).
- ○ (ii) and, (iii) are correct statements but not (i).

References

Multiple Choice	Learning Objective: 02-01 Create a frequency table for a set of data.
Difficulty: Hard	Learning Objective: 02-02 Organize data into a bar chart.

3. Award: **10.00 points**

(i) Pie charts are useful for showing the percent that various components compose of the total.
(ii) Simple bar charts may be constructed either horizontally or vertically.
(iii) A bar chart is a graphic representation of a frequency table.

→ ○ (i), (ii) and (iii) are all correct statements.

○ (i) and, (ii) are correct statements but not (iii).

○ (i) and, (iii) are correct statements but not (ii).

○ (ii) and, (iii) are correct statements but not (i).

References

Multiple Choice	Learning Objective: 02-02 Organize data into a bar chart.
Difficulty: Hard	Learning Objective: 02-03 Present a set of data using a pie chart.

4. Award: **10.00 points**

(i) Bar charts are useful for showing the percent that various components compose of the total.
(ii) Simple bar charts may be constructed either horizontally or vertically.
(iii) A bar chart is a graphic representation of a frequency table.

○ (i), (ii) and (iii) are all correct statements.

○ (i) and, (ii) are correct statements but not (iii).

○ (i) and, (iii) are correct statements but not (ii).

→ ○ (ii) and, (iii) are correct statements but not (i).

References

Multiple Choice	Difficulty: Hard	Learning Objective: 02-02 Organize data into a bar chart.

5. Award: **10.00 points**

(i) Bar charts are useful for showing the percent that various components compose of the total.
(ii) Simple bar charts may be constructed either horizontally or vertically.
(iii) A frequency polygon is ideal for showing the trend or sales of income over time.

- (i), (ii) and (iii) are all correct statements.
- (i) and, (ii) are correct statements but not (iii).
- (i) and, (iii) are correct statements but not (ii).
- → (ii) and, (iii) are correct statements but not (i).

References

Multiple Choice	Learning Objective: 02-02 Organize data into a bar chart.
Difficulty: Hard	Learning Objective: 02-06 Present the data from a frequency distribution in a histogram or frequency polygon.

6. Award: **10.00 points**

Using the frequency table below, determine the relative frequencies for Apartment and Townhouse listings.

Type	Number of Listings
Apartment	58
House	26
Townhouse	14
	98

- ○ .5000 and .5000
- ○ .5000 and .2653
- ○ .2653 and .1429
- ○ .1429 and .2495
- → ○ .5918 and .1429

References

Multiple Choice Difficulty: Medium Learning Objective: 02-05 Understand a relative frequency distribution.

7. Award: **10.00 points**

Quinn's Café serves ice cream. She asks 100 of her regular customers to take a taste test and pick the flavour they like the best. The results are shown in the following table.

Flavour	Number
Vanilla	40
Green tea	25
Lemon	20
Coffee	15
Total	100

Is the data quantitative or qualitative? What is the name of the table shown?

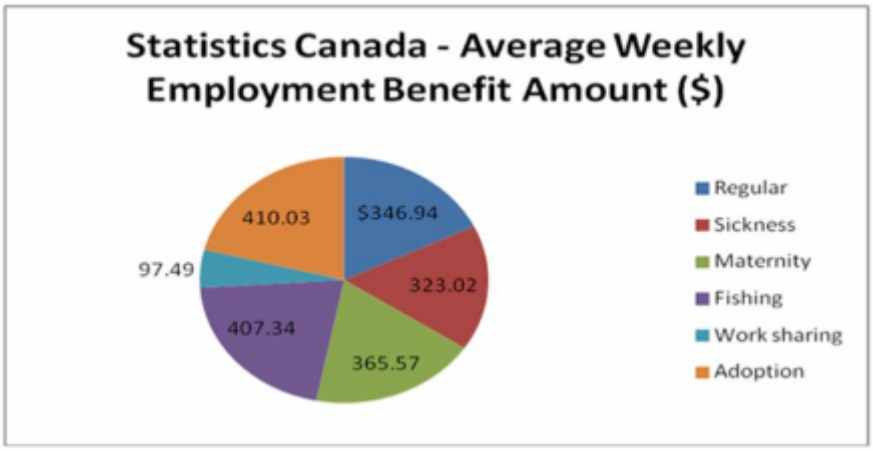
- quantitative, simple table
- quantitative, frequency table
- → qualitative, frequency table
- qualitative, cumulative frequency distribution
- quantitative, bar chart

References

Multiple Choice Difficulty: Medium Learning Objective: 02-01 Create a frequency table for a set of data.

8. Award: **10.00 points**

Statistics Canada report 2010 results in the following chart.



Is the data quantitative or qualitative? What is the name of the table shown?

- quantitative, simple table
- quantitative, pie chart
- qualitative, frequency table
- → qualitative, pie chart
- quantitative, bar chart

References

Multiple Choice Difficulty: Medium Learning Objective: 02-02 Organize data into a bar chart.

9. Award: **10.00 points**

When data is collected using a qualitative, nominal variable, i.e., male or female, what is true about a frequency distribution that summarizes the data?

- Upper and lower class limits must be calculated.
- Class midpoints can be computed.
- → Number of classes corresponds to number of the variable's values.
- The "2 to the k rule" can be applied.

References

Multiple Choice Difficulty: Medium Learning Objective: 02-01 Create a frequency table for a set of data.

10. Award: **10.00 points**

A student was interested in the cigarette smoking habits of college students and collected data from an unbiased random sample of students. The data is summarized in the following table:

Male: 50	Female: 75
Males who smoke: 20	Females who smoke: 25
Males who do not smoke: 30	Females who do not smoke: 50

Why is the table NOT a frequency table?

- The number of males does not equal the sum of males that smoke and do not smoke.
- → The classes are not mutually exclusive.
- There are too many classes.
- Class limits cannot be computed

References

Multiple Choice Difficulty: Medium Learning Objective: 02-01 Create a frequency table for a set of data.

11. Award: **10.00 points**

A group of 100 students were surveyed about their interest in a new International Studies program. The survey asked students about their interest in the program in terms of high, medium, or low. 30 students responded high interest; 50 students responded medium interest; 20 students responded low interest. What is the relative frequency of students with medium interest?

- 30%
- → 50%
- 20%
- Cannot be determined.

References

Multiple Choice Difficulty: Easy Learning Objective: 02-01 Create a frequency table for a set of data.

12. Award: **10.00 points**

Which of the following would be most helpful if you wished to construct a pie chart?

- a frequency distribution
- → a relative frequency table
- a cumulative frequency distribution
- an ogive
- a clustered bar chart

References

Multiple Choice Difficulty: Medium Learning Objective: 02-03 Present a set of data using a pie chart.

13. Award: **10.00 points**

If the enrolment for this Faculty of Business remained constant at 625 between 2000 and 2001, determine the change in the enrolment in the School of Accounting during this time.

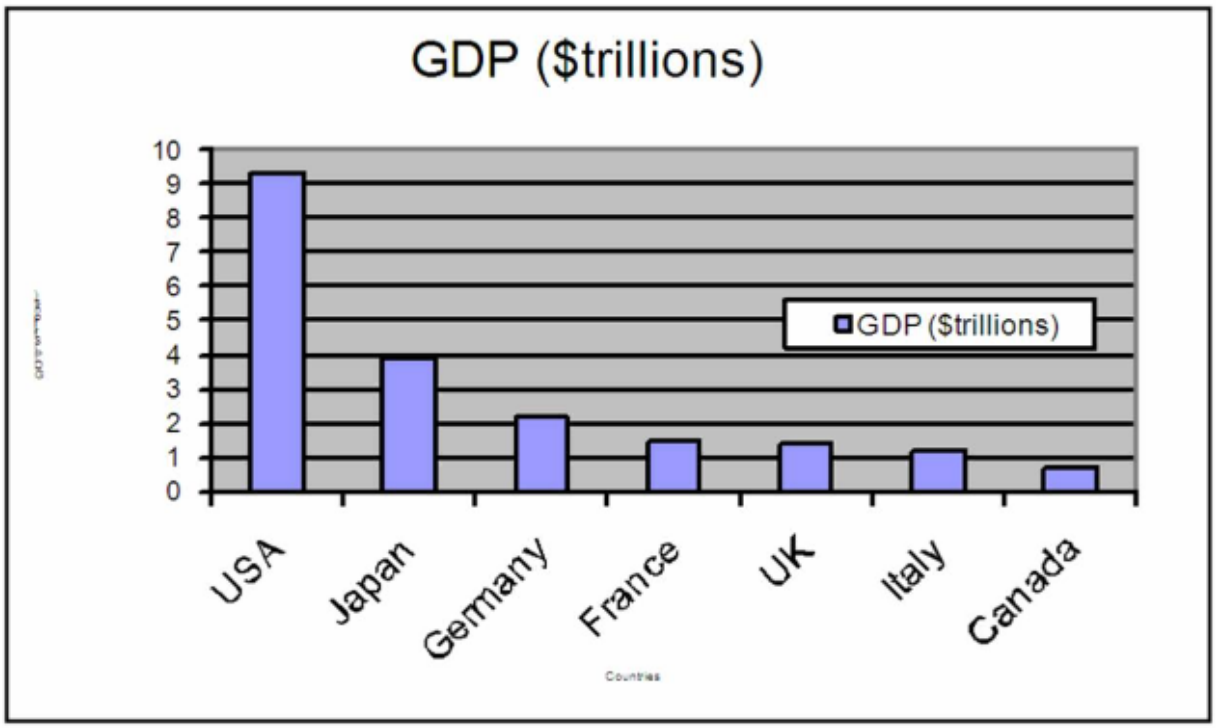
- → ○ increase of 19 students
- ○ decrease of 19 students
- ○ increase of 75 students
- ○ decrease of 75 students
- ○ decrease of 25 students

References

Multiple Choice Difficulty: Hard Learning Objective: 02-03 Present a set of data using a pie chart.

14. Award: **10.00 points**

The chart below shows the Gross Domestic Product for 7 nations. Which of the following statements can be determined from this chart?



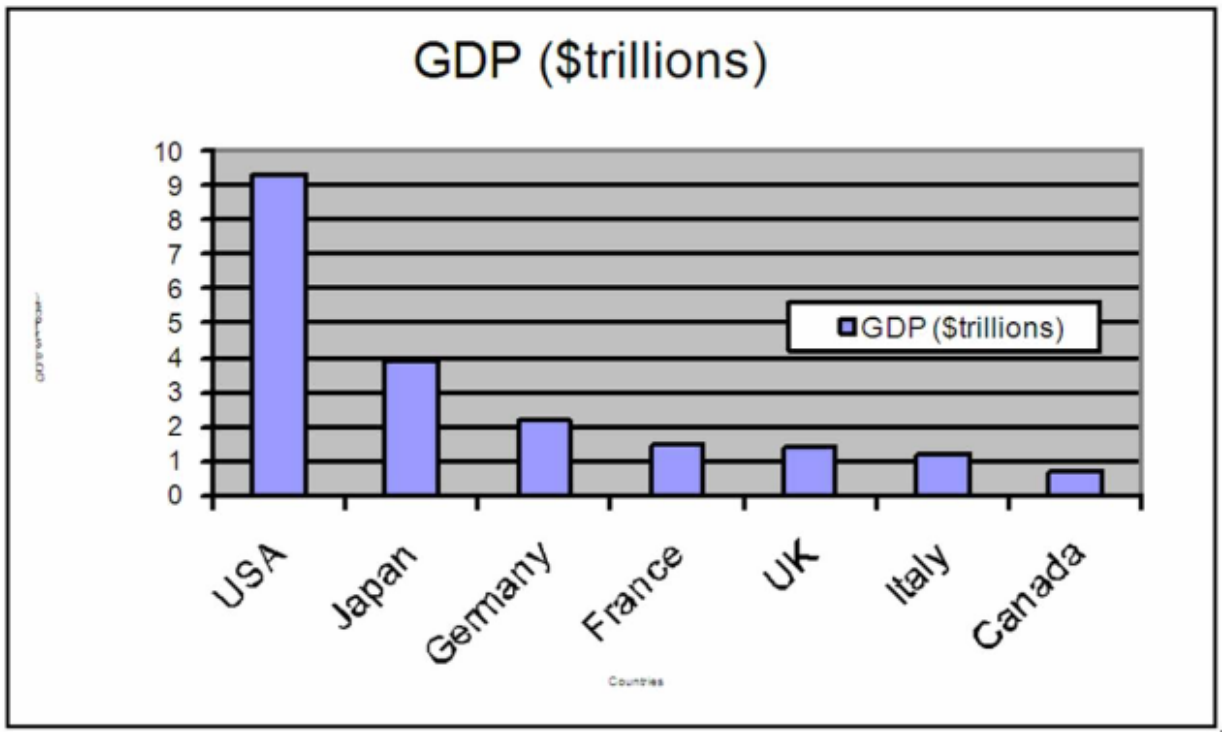
- The GDP of the USA is approximately twice the size of each of the other countries.
- → Germany's GDP is approximately half of that of Japan.
- Germany's GDP is approximately half of that of Canada.
- The GDP of the USA is larger than the total GDP of all the other 6 countries combined.

References

Multiple Choice Difficulty: Medium Learning Objective: 02-02 Organize data into a bar chart.

15. Award: **10.00 points**

The chart below shows the Gross Domestic Product for 7 nations. Which of the following statements can be determined from this chart?



- The GDP of the USA is approximately twice the size of each of the other countries.
- Germany's GDP is approximately half of that of Italy.
- Germany's GDP is approximately twice of that of Canada.
- → The GDP of Japan is approximately $4 trillion.

References

Multiple Choice Difficulty: Medium Learning Objective: 02-02 Organize data into a bar chart.

16. Award: **10.00 points**

(i) A frequency distribution is grouping of data into classes showing the number of observations in each class.
(ii) The midpoint of a class, which is also called a class mark, is halfway between the lower and upper limits.
(iii) A class interval, which is the width of a class, can be determined by subtracting the lower limit of a class from the lower limit of the next higher class.

- → ○ (i), (ii) and (iii) are all correct statements.
- ○ (i) and, (ii) are correct statements but not (iii).
- ○ (i) and, (iii) are correct statements but not (ii).
- ○ (ii) and, (iii) are correct statements but not (i).

References

Multiple Choice Difficulty: Medium Learning Objective: 02-04 Create a frequency distribution for a data set.

17. Award: **10.00 points**

(i) A frequency distribution is grouping of data into classes showing the number of observations in each class.
(ii) In constructing a frequency distribution, you should try to have open-ended classes such as "Under $100" and "$1,000 and over".
(iii) A cumulative frequency distribution is used when we want to determine how many observations lie above or below certain values.

- ○ (i), (ii) and (iii) are all correct statements.
- ○ (i) and, (ii) are correct statements but not (iii).
- → ○ (i) and, (iii) are correct statements but not (ii).
- ○ (ii) and, (iii) are correct statements but not (i).

References

Multiple Choice	Learning Objective: 02-01 Create a frequency table for a set of data.	Learning Objective: 02-07 Construct and interpret a cumulative frequency distribution.
Difficulty: Medium	Learning Objective: 02-04 Create a frequency distribution for a data set.	

18. Award: **10.00 points**

Monthly commissions of first-year insurance brokers are $1,270, $1,310, $1,680, $1,380, $1,410, $1,570, $1,180 and $1,420. These figures are referred to as:

- histogram.
- → raw data.
- frequency distribution.
- frequency polygon.

References

Multiple Choice	Learning Objective: 02-01 Create a frequency table for a set of data.
Difficulty: Easy	Learning Objective: 02-04 Create a frequency distribution for a data set.

19. Award: **10.00 points**

The monthly incomes of a small sample of computer operators are $1,950, $1,775, $2,060, $1,840, $1,795, $1,890, $1,925 and $1,810. What are these ungrouped numbers called?

- Histogram
- Class limits
- Class frequencies
- → Raw data

References

Multiple Choice	Learning Objective: 02-01 Create a frequency table for a set of data.
Difficulty: Easy	Learning Objective: 02-04 Create a frequency distribution for a data set.

20. Award: **10.00 points**

A group of 100 students were surveyed about their interest in a new International Studies program. The survey asked students about their interest in the program in terms of high, medium, or low. 30 students responded high interest; 50 students responded medium interest; 20 students responded low interest. What is the relative frequency of students with high interest?

- → 30%
- 50%
- 20%
- Cannot be determined.

References

Multiple Choice	Difficulty: Easy	Learning Objective: 02-01 Create a frequency table for a set of data.

21. Award: **10.00 points**

When a class interval is expressed as: 100 to under 200

- Observations with values of 100 are excluded from the class frequency.
- Observations with values of 200 are included in the class frequency.
- → Observations with values of 200 are excluded from the class frequency.
- The class interval is 99.

References

Multiple Choice Difficulty: Easy Learning Objective: 02-04 Create a frequency distribution for a data set.

22. Award: **10.00 points**

What is the following table called?

Ages	Number of Ages
20 to under 30	16
30 to under 40	25
40 to under 50	51
50 to under 60	80
60 to under 70	20
70 to under 80	8

- ○ Histogram
- ○ Frequency polygon
- ○ Cumulative frequency distribution
- → ○ Frequency distribution

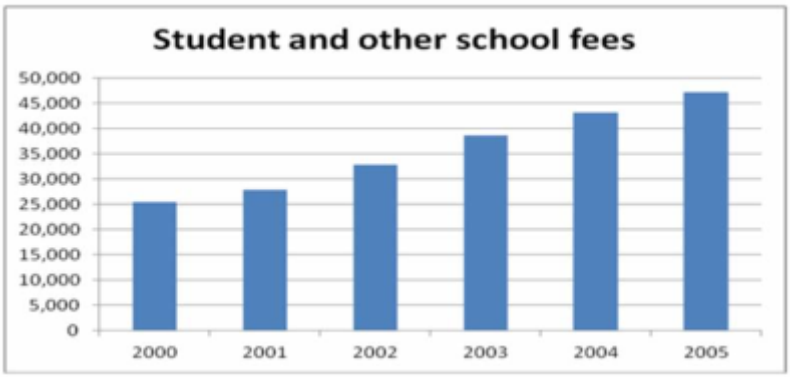
References

Multiple Choice Learning Objective: 02-01 Create a frequency table for a set of data.

Difficulty: Easy Learning Objective: 02-04 Create a frequency distribution for a data set.

23. Award: **10.00 points**

The chart below can be best described as



- Frequency Polygon
- → Bar chart
- Pie chart
- Stacked bar chart
- Cumulative stacked bar chart

References

Multiple Choice Difficulty: Easy Learning Objective: 02-02 Organize data into a bar chart.

24. Award: **10.00 points**

A group of 100 students were surveyed about their interest in a new International Studies program. The survey asked students about their interest in the program in terms of high, medium, or low. 30 students responded high interest; 50 students responded medium interest; 20 students responded low interest. What is the relative frequency of students with low interest?

- 30%
- 50%
- → 20%
- Cannot be determined.

References

Multiple Choice Difficulty: Easy Learning Objective: 02-01 Create a frequency table for a set of data.

25. Award: **10.00 points**

The monthly salaries of a sample of 100 employees were rounded to the nearest ten dollars. They ranged from a low of $1,040 to a high of $1,720. If we want to condense the data into seven classes, what is the most convenient class interval?

- $50
- → $100
- $150
- $200

References

Multiple Choice Difficulty: Easy Learning Objective: 02-04 Create a frequency distribution for a data set.

26. Award: 10.00 points

For the following distribution of heights, what are the limits for the class with the greatest frequency?

Heights	60" to under 65"	65" to under 70"	70" to under 75"
Number	10	70	20

- 64 and 70
- 65 and 69
- → 65 and 70
- 69.5 and 74.5

References

Multiple Choice Difficulty: Easy Learning Objective: 02-04 Create a frequency distribution for a data set.

27. Award: 10.00 points

In a frequency distribution, what is the number of observations in a class called?

- Class midpoint
- Class interval
- Class array
- → Class frequency

References

Multiple Choice Difficulty: Easy Learning Objective: 02-04 Create a frequency distribution for a data set.

28. Award: 10.00 points

A sample distribution of hourly earnings in Paul's Cookie Factory is:

Hourly Earnings	$6 to under $9	$9 to under $12	$12 to under $15
Numbers	16	42	10

The limits of the class with the smallest frequency are:

- ○ $6.00 and $9.00
- ○ $12.00 and $14.00
- ○ $11.75 and $14.25
- → ○ $12.00 and $15.00

References

Multiple Choice Difficulty: Easy Learning Objective: 02-04 Create a frequency distribution for a data set.

29. Award: 10.00 points

Why are unequal class intervals sometimes used in a frequency distribution?

- → ○ To avoid a large number of empty classes
- ○ For the sake of variety in presenting the data
- ○ To make the class frequencies smaller
- ○ To avoid the need for midpoints

References

Multiple Choice Difficulty: Easy Learning Objective: 02-04 Create a frequency distribution for a data set.

30. Award: 10.00 points

Consider the following relative frequency distribution:

Class Interval	Relative Frequency
0 to under 10	0.2
10 to under 20	0.3
20 to under 30	0.45
30 to under 40	0.05

If there are 2,000 numbers in the data set, how many of the values are less than 30?

- 900
- 90
- → 1900
- 100

References

Multiple Choice Difficulty: Easy Learning Objective: 02-05 Understand a relative frequency distribution.

31. Award: 10.00 points

Refer to the following price of jeans are recorded to the nearest dollar:
The first two class midpoints are $62.50 and $65.50.
What is the class interval?

- $1.00
- $2.00
- $2.50
- → $3.00

References

Multiple Choice Difficulty: Medium Learning Objective: 02-04 Create a frequency distribution for a data set.

32. Award: **10.00 points**

Refer to the following price of jeans are recorded to the nearest dollar:
The first two class midpoints are $62.50 and $65.50.
What are the class limits for the lowest class?

- → ○ $61 and up to $64
- ○ $62 and up to $64
- ○ $62 and $65
- ○ $62 and $63

References

Multiple Choice Difficulty: Hard Learning Objective: 02-04 Create a frequency distribution for a data set.

33. Award: **10.00 points**

Refer to the following price of jeans are recorded to the nearest dollar:
The first two class midpoints are $62.50 and $65.50.
What are the class limits for the third class?

- ○ $64 and $67
- ○ $67 and $69
- → ○ $67 and $70
- ○ $66 and $68

References

Multiple Choice Difficulty: Hard Learning Objective: 02-04 Create a frequency distribution for a data set.

34. Award: **10.00 points**

Refer to the following ages (rounded to the nearest whole year) of employees at a large company that were grouped into a distribution with class limits:

20 up to 30
30 up to 40
40 up to 50
50 up to 60
60 up to 70

What is the class interval and the midpoint of the first class?

- ○ 20 and 25
- ○ 20 and 24.5
- → ○ 10 and 25
- ○ 10 and 24.5

References

Multiple Choice Difficulty: Easy Learning Objective: 02-04 Create a frequency distribution for a data set.

35. Award: **10.00 points**

What is the class midpoint for the $45 up to $55 class?

Cost of Textbooks	Number
$25 up to $35	2
35 up to 45	5
45 up to 55	7
55 up to 65	20
65 up to 75	16

- 49
- 49.5
- → 50
- 50.5

References

Multiple Choice Difficulty: Easy Learning Objective: 02-04 Create a frequency distribution for a data set.

36. Award: **10.00 points**

What are the class limits for the $55 up to $65 class?

Cost of Textbooks	Number
$25 up to $35	2
35 up to 45	5
45 up to 55	7
55 up to 65	20
65 up to 75	16

- 55 and 64
- 54 and 64
- → 55 and up to 65
- 55 and 64.5

References

Multiple Choice Difficulty: Easy Learning Objective: 02-04 Create a frequency distribution for a data set.

37. Award: **10.00 points**

The following class intervals for a frequency distribution were developed to provide information regarding the starting salaries for students graduating from a particular school:

Salary ($1,000s)	Number of Graduates
18-under 21	-
21-under 25	-
24-under 27	-
29-under 30	-

Before data was collected, someone questioned the validity of this arrangement. Which of the following represents a problem with this set of intervals?

- there are too many intervals
- the class widths are too small
- → some numbers between 18,000 and 30,000 would fall into two different intervals
- the first and the second interval overlap

References

Multiple Choice Difficulty: Medium Learning Objective: 02-04 Create a frequency distribution for a data set.

38. Award: **10.00 points**

The following class intervals for a frequency distribution were developed to provide information regarding the starting salaries for students graduating from a particular school:

Salary ($1,000s)	Number of Graduates
18-under 21	-
21-under 25	-
24-under 27	-
29-under 30	-

Before data was collected, someone questioned the validity of this arrangement. Which of the following represents a problem with this set of intervals?

- there are too many intervals
- the class widths are too small
- some numbers between 18,000 and 30,000 would not fall into any of these intervals
- the first and the second intervals overlap
- → the second and third intervals overlap

References

Multiple Choice Difficulty: Medium Learning Objective: 02-04 Create a frequency distribution for a data set.

39. Award: **10.00 points**

The head of the statistics department wants to determine the number of mistake made by students in their first online assignment. She gathers information from her classes of the past year.

Errors Per Assignment	Number of Students
0 to under 2	40
2 to under 4	50
4 to under 6	30
6 to under 8	10
8 to under 10	20

The approximate range (distance from the minimum value in the raw data up to the maximum value) of the data is _____.

- 150
- 40
- → 10
- 2

References

Multiple Choice Difficulty: Medium Learning Objective: 02-04 Create a frequency distribution for a data set.

Refer to the following distribution of commissions:

Monthly commissions	Class Frequencies
$600 to under $800	3
800 to under 1,000	7
1,000 to under 1,200	11
1,200 to under 1,400	22
1,400 to under 1,600	40
1,600 to under 1,800	24
1,800 to under 2,000	9
2,000 to under 2,200	4

40. Award: 10.00 points

What is the relative frequency for those salespersons that earn between $1,600 and $1,799?

- 2%
- 2.4%
- → 20%
- 24%

References

Multiple Choice Difficulty: Medium Learning Objective: 02-05 Understand a relative frequency distribution.

41. Award: 10.00 points

The first plot for a cumulative greater than frequency distribution should be:

- $X = 0,\ Y = 600.$
- $X = 600,\ Y = 3.$
- $X = 3,\ Y = 600.$
- → $X = 600,\ Y = 120.$

References

Multiple Choice Difficulty: Medium Learning Objective: 02-07 Construct and interpret a cumulative frequency distribution.

42. Award: **10.00 points**

What is the relative frequency of those salespersons that earn more than $1,599?

- 25.5%
- 27.5%
- 29.5%
- → 30.8%

References

Multiple Choice Difficulty: Medium Learning Objective: 02-05 Understand a relative frequency distribution.

43. Award: **10.00 points**

What is the relative frequency for those salespersons that earn between $1,500 and $1,800?

- 2%
- 2.4%
- 20%
- 24%
- → Unable to determine without approximation

References

Multiple Choice Difficulty: Medium Learning Objective: 02-05 Understand a relative frequency distribution.

44. Award: 10.00 points

(i) Simple bar charts may be constructed either horizontally or vertically.
(ii) A frequency polygon is a very useful graphic technique when comparing two or more distributions
(iii) A cumulative frequency distribution is used when we want to determine how many observations lie above or below certain values.

- → ○ (i), (ii) and (iii) are all correct statements.
- ○ (i) and, (ii) are correct statements but not (iii).
- ○ (i) and, (iii) are correct statements but not (ii).
- ○ (ii) and, (iii) are correct statements but not (i).
- ○ (i), (ii), and (iii) are all false statements.

References

Multiple Choice	Learning Objective: 02-02 Organize data into a bar chart.	Learning Objective: 02-07 Construct and interpret a cumulative frequency distribution.
Difficulty: Medium	Learning Objective: 02-06 Present the data from a frequency distribution in a histogram or frequency polygon.	

45. Award: 10.00 points

One rule that must always be followed in constructing frequency distributions is that _____.

- the number of classes must be less than 10
- → each data point can only fall into one class
- the width of each class is equal to the range
- the number of intervals must be an odd number
- the class intervals must overlap

References

Multiple Choice	Learning Objective: 02-01 Create a frequency table for a set of data.
Difficulty: Medium	Learning Objective: 02-04 Create a frequency distribution for a data set.

Refer to the following chart showing a distribution of exporting firms:

Exports ($ millions)	Number of Firms
$2 to under $5	6
5 to under 8	13
8 to under 11	20
11 to under 14	10
14 to under 17	3

46. Award: **10.00 points**

For the distribution above, what is the midpoint of the class with the greatest frequency?

- $6 million
- → $9.5 million
- $15.5 million
- The midpoint cannot be determined

References

Multiple Choice Difficulty: Medium Learning Objective: 02-04 Create a frequency distribution for a data set.

47. Award: **10.00 points**

What is the class interval? _____

- 2
- → 3
- 3.5
- 4

References

Multiple Choice Difficulty: Medium Learning Objective: 02-04 Create a frequency distribution for a data set.

48. Award: **10.00 points**

How many firms export less than $14 million in product?

- 3
- 60
- 50
- → 49

References

Multiple Choice	Learning Objective: 02-04 Create a frequency distribution for a data set.	
Difficulty: Medium	Learning Objective: 02-07 Construct and interpret a cumulative frequency distribution.	

49. Award: **10.00 points**

What percentage of the firms export less than $14 million in product?

- 3%
- 6%
- 49%
- → 94%
- 75%

References

Multiple Choice	Difficulty: Medium	Learning Objective: 02-07 Construct and interpret a cumulative frequency distribution.

Refer to the following distribution of commissions:

Monthly commissions	Class Frequencies
$600 to under $800	3
800 to under 1,000	7
1,000 to under 1,200	11
1,200 to under 1,400	22
1,400 to under 1,600	40
1,600 to under 1,800	24
1,800 to under 2,000	9
2,000 to under 2,200	4

50. Award: **10.00 points**

What is the class interval for the table of commissions above?

- → ○ $200
- ○ $3
- ○ $400
- ○ $1600

References

Multiple Choice Difficulty: Medium Learning Objective: 02-04 Create a frequency distribution for a data set.

51. Award: **10.00 points**

What is the class midpoint for the class with the greatest frequency?

- $1400
- → $1500
- $1600
- $1700

References

Multiple Choice Difficulty: Medium Learning Objective: 02-04 Create a frequency distribution for a data set.

52. Award: **10.00 points**

What are the class limits for the class with the smallest number of frequencies?

- → 600 and 800
- 800 and1000
- 2000 and 2200
- 599 and 799

References

Multiple Choice Difficulty: Medium Learning Objective: 02-04 Create a frequency distribution for a data set.

Refer to the following distribution of ages:

Ages	Number
40 up to 50	10
50 up to 60	28
60 up to 70	12

53. Award: 10.00 points

For the distribution of ages above, what is the relative class frequency for the lowest class?

- 50%
- 18%
- → 20%
- 10%

References

Multiple Choice	Difficulty: Medium	Learning Objective: 02-05 Understand a relative frequency distribution.

54. Award: 10.00 points

What is the class interval?

- 9
- → 10
- 10.5
- 11

References

Multiple Choice	Difficulty: Medium	Learning Objective: 02-04 Create a frequency distribution for a data set.

55. Award: 10.00 points

What is the class midpoint of the highest class?

- 54
- 55
- 64
- → 65

References

Multiple Choice Difficulty: Medium Learning Objective: 02-04 Create a frequency distribution for a data set.

Refer to the following cumulative frequency distribution on days absent during a calendar year by employees of a manufacturing company:

Days Absent	Cumulative Number of Employees
0 to under 3	60
3 to under 6	31
6 to under 9	14
9 to under 12	6
12 to under 15	2

56. Award: **10.00 points**

How many employees were absent between 3 to under 6 days?

- → ○ 31
- ○ 29
- ○ 14
- ○ 2
- ○ 17

References

Multiple Choice	Difficulty: Easy	Learning Objective: 02-04 Create a frequency distribution for a data set.

57. Award: **10.00 points**

How many employees were absent fewer than six days?

- ○ 60
- ○ 31
- → ○ 91
- ○ 46

References

Multiple Choice	Learning Objective: 02-04 Create a frequency distribution for a data set.
Difficulty: Medium	Learning Objective: 02-07 Construct and interpret a cumulative frequency distribution.

58. Award: **10.00 points**

How many employees were absent six or more days?

- 8
- 4
- → 22
- 31

References

Multiple Choice	Learning Objective: 02-04 Create a frequency distribution for a data set.
Difficulty: Medium	Learning Objective: 02-07 Construct and interpret a cumulative frequency distribution.

59. Award: **10.00 points**

How many employees were absent from 6 to under 12 days?

- → ○ 20
- ○ 8
- ○ 12
- ○ 17

References

Multiple Choice	Learning Objective: 02-04 Create a frequency distribution for a data set.
Difficulty: Medium	Learning Objective: 02-07 Construct and interpret a cumulative frequency distribution.

60. Award: **10.00 points**

(i) Pie charts are useful for showing the percent that various components compose of the total.
(ii) Simple bar charts may be constructed either horizontally or vertically.
(iii) A Frequency Polygon is ideal for showing the trend or sales of income over time.

- → ○ (i), (ii) and (iii) are all correct statements.
- ○ (i) and, (ii) are correct statements but not (iii).
- ○ (i) and, (iii) are correct statements but not (ii).
- ○ (ii) and, (iii) are correct statements but not (i).
- ○ (i), (ii) and (iii) are all false statements.

References

Multiple Choice	Learning Objective: 02-02 Organize data into a bar chart.	Learning Objective: 02-06 Present the data from a frequency distribution in a histogram or frequency polygon.
Difficulty: Hard	Learning Objective: 02-03 Present a set of data using a pie chart.	

61. Award: **10.00 points**

(i) In constructing a frequency distribution, you should try to have open-ended classes such as "Under $100" and "$1,000 and over".
(ii) To convert a frequency distribution to a relative frequency distribution, divide each class frequency by the sum of the class frequencies.
(iii) When constructing a frequency distribution, try to include overlapping stated class limits, such as 100 up to 201, 200 up to 301, and 300 up to 401.

- ○ (i), (ii) and (iii) are all correct statements.
- ○ (i) and, (ii) are correct statements but not (iii).
- ○ (i) and, (iii) are correct statements but not (ii).
- → ○ (ii) is a correct statement but not (i) or (iii).
- ○ (i), (ii) and (iii) are all false statements.

References

Multiple Choice	Learning Objective: 02-01 Create a frequency table for a set of data.	Learning Objective: 02-05 Understand a relative frequency distribution.
Difficulty: Hard	Learning Objective: 02-04 Create a frequency distribution for a data set.	

62. Award: 10.00 points

What is the relative class frequency for the $25 up to $35 class?

Cost of Textbooks	Number
$25 up to $35	2
35 up to 45	5
45 up to 55	7
55 up to 65	20
65 up to 75	16

- 2%
- → 4%
- 5%
- 10%
- None of the choices are correct.

References

Multiple Choice Difficulty: Easy Learning Objective: 02-01 Create a frequency table for a set of data.

63. Award: 10.00 points

The relative frequency for a class is computed as

- Class width divided by class interval.
- Class midpoint divided by the class frequency.
- Class frequency divided by the class interval.
- → Class frequency divided by the total frequency.

References

Multiple Choice Difficulty: Easy Learning Objective: 02-01 Create a frequency table for a set of data.

64. Award: **10.00 points**

When a class interval is expressed as: 100 to under 200

(i) Observations with values of 100 are included from the class frequency.
(ii) Observations with values of 200 are included in the class frequency.
(iii) Observations with values of 200 are excluded from the class frequency.

- (i), (ii) and (iii) are all correct statements.
- (i) and, (ii) are correct statements but not (iii).
- → (i) and, (iii) are correct statements but not (ii).
- (ii) is a correct statement but not (i) or (iii).

References

Multiple Choice Difficulty: Medium Learning Objective: 02-04 Create a frequency distribution for a data set.

65. Award: **10.00 points**

The age distribution of a sample of the part-time employees at Lloyd's Fast Food Emporium is:

Ages	Cumulative Number
18 up to 23	6
23 up to 28	19
28 up to 33	52
33 up to 38	61
38 up to 43	65

What type of chart has the data been organized to draw?

- Histogram
- Simple Frequency Polygon
- → Cumulative frequency polygon
- Pie chart
- Frequency polygon

References

Multiple Choice Difficulty: Easy Learning Objective: 02-07 Construct and interpret a cumulative frequency distribution.

66. Award: **10.00 points**

The chart below can be best described as

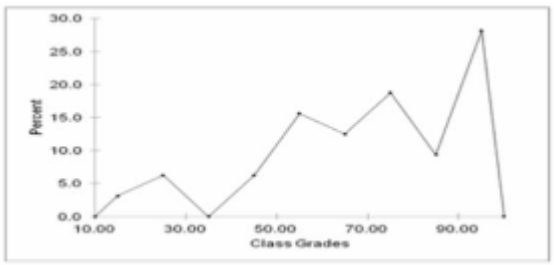
- Frequency Polygon
- Bar chart
- Clustered bar chart
- Stacked bar chart
- → Histogram

References

Multiple Choice Difficulty: Easy Learning Objective: 02-06 Present the data from a frequency distribution in a histogram or frequency polygon.

67. Award: **10.00 points**

The chart below can be best described as



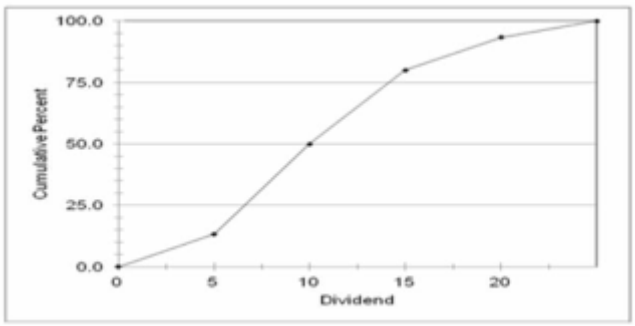
- Frequency Polygon
- Bar chart
- Clustered bar chart
- Stacked bar chart
- Histogram

References

Multiple Choice Difficulty: Easy Learning Objective: 02-06 Present the data from a frequency distribution in a histogram or frequency polygon.

68. Award: **10.00 points**

The chart below can be best described as



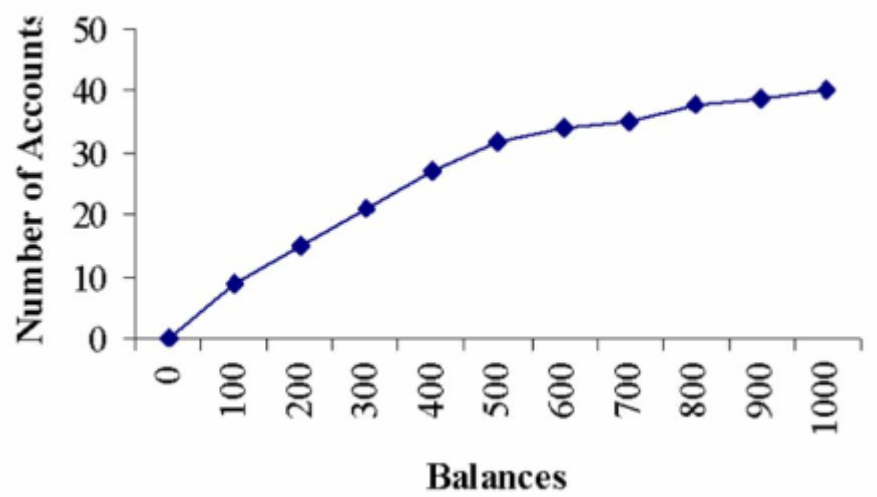
- Frequency Polygon
- → Cumulative frequency polygon
- Clustered bar chart
- Stacked bar chart
- Histogram

References

Multiple Choice Difficulty: Easy Learning Objective: 02-07 Construct and interpret a cumulative frequency distribution.

69. Award: **10.00 points**

The Lake Ontario Credit Union selected a sample of 40 student chequing accounts. Below is a chart of their end-of-the-month balances. The bank considers any student with an ending balance of $400 or more a "preferred customer". Estimate the number of preferred customers in this sample.



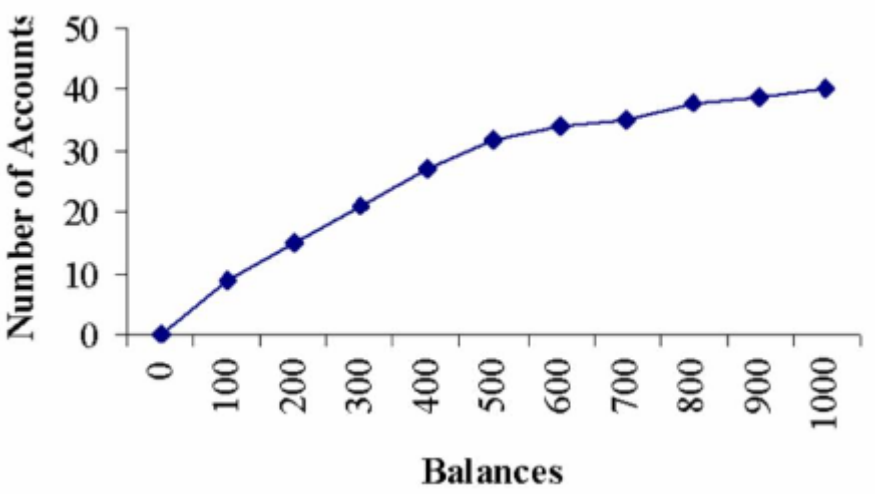
- 10
- → 15
- 30
- 40

References

Multiple Choice Difficulty: Hard Learning Objective: 02-07 Construct and interpret a cumulative frequency distribution.

70. Award: **10.00 points**

The Lake Ontario Credit Union selected a sample of 40 student chequing accounts. Below is a chart of their end-of-the-month balances. The bank considers any student with an ending balance of $400 or more a "preferred customer". Estimate the percentage of preferred customers.



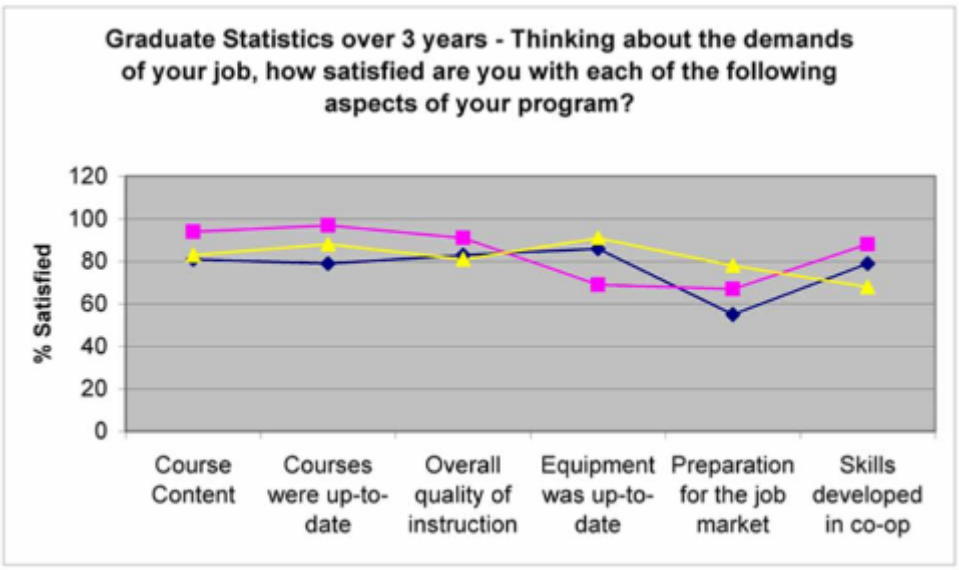
- → ○ 37.5%
- ○ 60%
- ○ 25%
- ○ 75%

References

Multiple Choice	Difficulty: Hard	Learning Objective: 02-07 Construct and interpret a cumulative frequency distribution.

71. Award: **10.00 points**

What type of graph is this?



- ○ frequency polygon
- → ○ multiple frequency polygon
- ○ bar chart
- ○ stacked bar chart
- ○ cumulative frequency polygon

References

Multiple Choice Difficulty: Medium Learning Objective: 02-06 Present the data from a frequency distribution in a histogram or frequency polygon.

72. Award: **10.00 points**

In a simple Frequency Polygon, where is time plotted?

- → ○ On the *X*-axis
- ○ On the *Y*-axis
- ○ On either axis.
- ○ Never plotted

References

Multiple Choice Difficulty: Easy Learning Objective: 02-06 Present the data from a frequency distribution in a histogram or frequency polygon.

73. Award: **10.00 points**

The grades on a statistics exam for a sample of students are as follows:

Stem	Leaf
3	68
4	1278
5	156789
6	122457888
7	1156799
8	1246
9	14

If A + = 90%-100%
A = 80%-89%
B+ = 75%-79%
B = 70%-74%
C+ = 65%-69%
C = 60%-64%
D+ = 55%-59%
D= 50%-54%
F=0-49%

What is the most common letter grade earned?

- ○ A (80%-89%)
- ○ B (70%-74%)
- ○ C (60%-64%)
- ○ D (50%-54%)
- → ○ F (0-49%)

References

Multiple Choice Difficulty: Medium Learning Objective: 02-08 Create and interpret a stem-and-leaf display.

74. Award: **10.00 points**

The grades on a statistics exam for a sample of students are as follows:

Stem	Leaf
3	68
4	1278
5	156789
6	122457888
7	1156799
8	1246
9	14

If A = 80%-100%
B = 70%-79%
C = 60%-69%
D= 50%-59%
F=0-49%

What is the most common letter grade earned?

- A (80%-100%)
- B (70%-79%)
- → C (60%-69%)
- D (50%-59%)
- F (0-49%)

References

Multiple Choice Difficulty: Medium Learning Objective: 02-08 Create and interpret a stem-and-leaf display.

75. Award: **10.00 points**

The grades on a statistics exam for a sample of students are as follows:

Stem	Leaf
4	014
5	08
6	88999
7	68
8	0011136
9	2

If A + = 90%-100%
A = 80%-89%
B+ = 75%-79%
B = 70%-74%
C+ = 65%-69%
C = 60%-64%
D+ = 55%-59%
D= 50%-54%
F=0-49%

What is the most common letter grade earned?

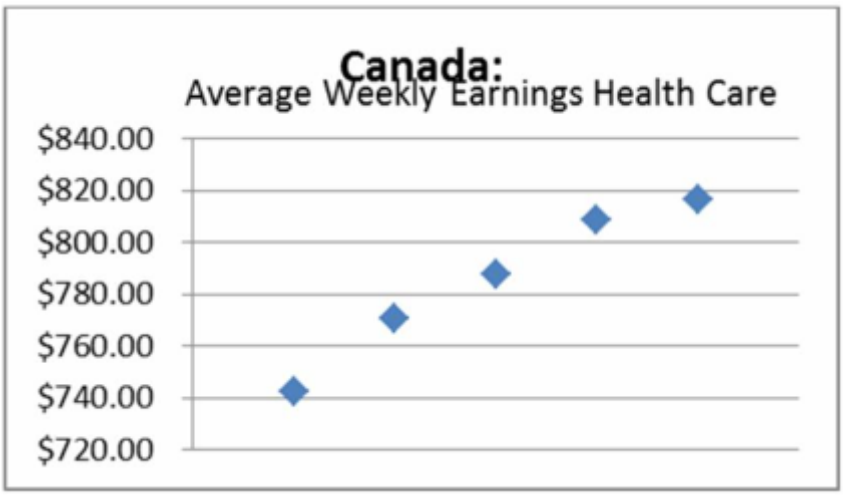
- → ○ A (80%-89%)
- ○ B (70%-74%)
- ○ C (60%-64%)
- ○ D (50%-54%)
- ○ F (0-49%)

References

Multiple Choice Difficulty: Medium Learning Objective: 02-08 Create and interpret a stem-and-leaf display.

76. Award: **10.00 points**

Which is the best (most informative and useful) graphical display of the Average Weekly Earnings Health Care in Canada over the years 2008 to 2012?

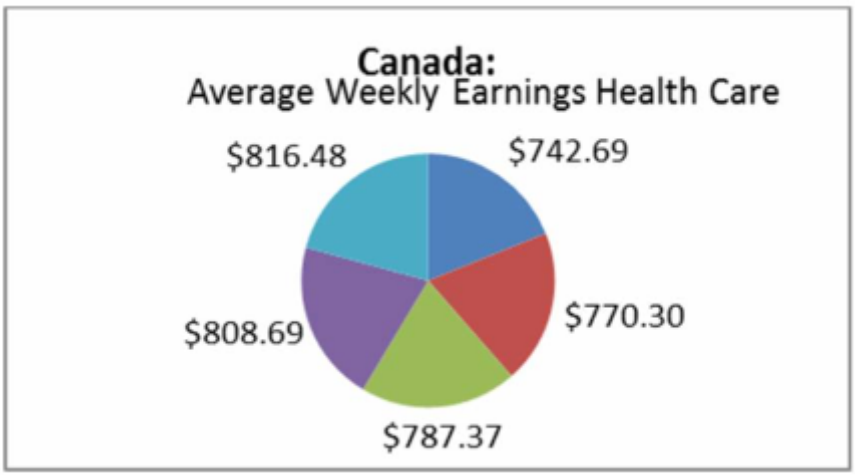


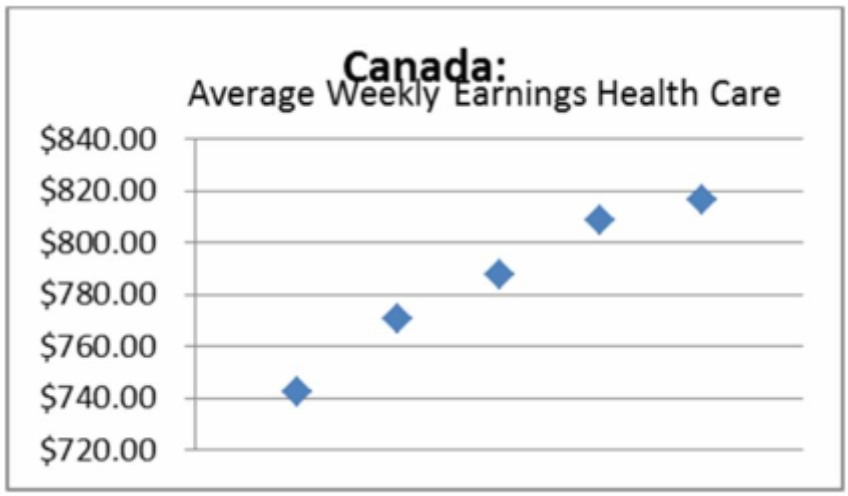
References

Multiple Choice	Learning Objective: 02-03 Present a set of data using a pie chart.
Difficulty: Medium	Learning Objective: 02-06 Present the data from a frequency distribution in a histogram or frequency polygon.

77. Award: **10.00 points**

Which is the best (most informative and useful) graphical display of the Average Weekly Earnings Health Care in Canada over the years 2008 to 2012?





References

Multiple Choice	Learning Objective: 02-03 Present a set of data using a pie chart.
Difficulty: Medium	Learning Objective: 02-06 Present the data from a frequency distribution in a histogram or frequency polygon.

78. Award: **10.00 points**

(i) For a stem-and-leaf display, the leaf for the value 98 is 9.
(ii) There is some loss of information when raw data is tallied into a stem-and-leaf display.
(iii) A cumulative frequency distribution is used when we want to determine how many observations lie above or below certain values.

- ○ (i), (ii) and (iii) are all correct statements.
- ○ (i) and, (ii) are correct statements but not (iii).
- ○ (i) and, (iii) are correct statements but not (ii).
- → ○ (iii) is a correct statement but not (i) or (ii)
- ○ (i), (ii) and (iii) are all false statements.

References

Multiple Choice	Learning Objective: 02-07 Construct and interpret a cumulative frequency distribution.
Difficulty: Medium	Learning Objective: 02-08 Create and interpret a stem-and-leaf display.

79. Award: **10.00 points**

The grades on a statistics exam for a sample of students are as follows:

Stem	Leaf
3	68
4	1278
5	156789
6	1224578889
7	1156799
8	1246
9	14

How many students wrote this test?

- 36
- → 35
- 38
- 7
- 43

References

Multiple Choice Difficulty: Medium Learning Objective: 02-08 Create and interpret a stem-and-leaf display.

80. Award: **10.00 points**

The grades on a statistics exam for a sample of students are as follows:

Stem	Leaf
3	68
4	1278
5	156789
6	1224578889
7	1156799
8	1246
9	14

If A + = 90%-100%
A = 80%-89%
B+ = 75%-79%
B = 70%-74%
C+ = 65%-69%
C = 60%-64%
D = 55%-59%
F = 0%-54%

How many student earned a letter grade of C?

- 1
- 3
- → 4
- 5
- 10

References

Multiple Choice Difficulty: Medium Learning Objective: 02-08 Create and interpret a stem-and-leaf display.

81. Award: **10.00 points**

A row of a stem-and-leaf chart appears as follows: 3 | 0 1 3 5 7 9. Assume that the data is rounded to the nearest unit.

- The frequency of the class is seven.
- The minimum value in the class is 0.
- → The maximum value in the class could be 39.
- The class interval is 5.

References

Multiple Choice Difficulty: Easy Learning Objective: 02-08 Create and interpret a stem-and-leaf display.

82. Award: **10.00 points**

(i). The stem in a stem-and-leaf display is the leading digit
(ii) There is no loss of information when raw data is tallied into a stem-and-leaf display.
(iii). For a stem-and-leaf display, the leaf for the value 98 is 9

- (i), (ii) and (iii) are all correct statements.
- → (i) and, (ii) are correct statements but not (iii).
- (i) and, (iii) are correct statements but not (ii).
- (ii) and (iii) are correct statements but not (i).
- (i), (ii) and (iii) are all false statements.

References

Multiple Choice Difficulty: Medium Learning Objective: 02-08 Create and interpret a stem-and-leaf display.

83. Award: **10.00 points**

Given the following stem and leaf plot, determine the smallest value in the data set.

Frequency	Stem	Leaf
2	1	9 9
3	2	6 7 7
9	3	0 2 2 2 2 5 7 8 9 9
7	4	0 6 6 7 7 8 8
12	5	2 2 3 4 4 4 5 5 6 7 8 8
9	6	0 0 0 0 1 1 3 5 7
0	7	
2	8	1 7
45		

- 1
- → 19
- 199
- 45
- 2

References

Multiple Choice Difficulty: Easy Learning Objective: 02-08 Create and interpret a stem-and-leaf display.

84. Award: **10.00 points**

Given the following stem and leaf plot, determine the largest value in the data set.

Frequency	Stem	Leaf
2	1	9 9
3	2	6 7 7
9	3	0 2 2 2 2 5 7 8 9 9
7	4	0 6 6 7 7 8 8
12	5	2 2 3 4 4 4 5 5 6 7 8 8
9	6	0 0 0 0 1 1 3 5 7
0	7	
2	8	1 7
45		

→ ○ 87

○ 819

○ 28

○ 17

○ 817

References

Multiple Choice Difficulty: Easy Learning Objective: 02-08 Create and interpret a stem-and-leaf display.

85. Award: **10.00 points**

The following represent the ages of students in a class:

19, 23, 21, 19, 19, 20, 22, 31, 21, 20

If a stem and leaf plot were to be developed from this, how many stems would there be?

- 1
- 2
- → 3
- 4
- 10

References

Multiple Choice Difficulty: Easy Learning Objective: 02-08 Create and interpret a stem-and-leaf display.

86. Award: **10.00 points**

The following represent the ages of students in a class:

19, 23, 21, 19, 19, 20, 22, 31, 21, 20

If a stem and leaf plot were to be developed from this, how many leaves would there be off the second stem?

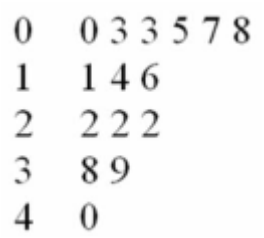
- 11
- 2
- 3
- 4
- → 6

References

Multiple Choice Difficulty: Medium Learning Objective: 02-08 Create and interpret a stem-and-leaf display.

87. Award: 10.00 points

Consider the following stem and leaf plot:



0	0 3 3 5 7 8
1	1 4 6
2	2 2 2
3	8 9
4	0

Suppose that you decided to develop a frequency distribution from this plot. What would be the lower limit of the first class?

- → ○ 0
- ○ 10
- ○ 11
- ○ 1
- ○ 3

References

Multiple Choice Difficulty: Easy Learning Objective: 02-08 Create and interpret a stem-and-leaf display.

88. Award: 10.00 points

In constructing a frequency polygon, the class frequencies are scaled on the _____ axis.

- ○ X-axis
- → ○ Y-axis
- ○ Z-axis

References

Multiple Choice Difficulty: Easy Learning Objective: 02-02 Organize data into a bar chart.

89. Award: **10.00 points**

A useful chart or graph to use for illustrating relative frequencies is the _____?

- bar chart
- → pie chart
- clustered bar chart
- multiple line polygon

References

Multiple Choice Difficulty: Easy Learning Objective: 02-02 Organize data into a bar chart.

90. Award: **10.00 points**

(i) A table showing the number of observations that have been grouped into each of several classes is called a frequency distribution.
(ii) When classes in a frequency table are constructed so that data will fit into only one category, it is called a relative class frequency.
(iii) The suggested class interval based on number of observations given the data ranges from 100 to 200 with 50 observations is 50.

- (i), (ii) and (iii) are all correct statements.
- (i), (ii) and (iii) are all false statements.
- (i) and (iii) are correct statements but not (ii).
- → (i) is a correct statement but not (ii) or (iii).

References

Multiple Choice Difficulty: Hard Learning Objective: 02-04 Create a frequency distribution for a data set.

91. Award: 10.00 points

(i) A table showing the number of observations that have been grouped into each of several classes is called a frequency distribution.
(ii) When classes in a frequency table are constructed so that data will fit into only one category, it is called mutually exclusive.
(iii) The suggested class interval based on number of observations given the data ranges from 100 to 200 with 50 observations is 20

- → ○ (i), (ii) and (iii) are all correct statements.
- ○ (i), (ii) and (iii) are all false statements.
- ○ (i) and, (iii) are correct statements but not (ii).
- ○ (ii) and (iii) are correct statements but not (i).

References

Multiple Choice Difficulty: Hard Learning Objective: 02-04 Create a frequency distribution for a data set.

92. Award: 10.00 points

(i) A table showing the number of observations that have been grouped into each of several classes is called a frequency distribution.
(ii) When classes in a frequency table are constructed so that data will fit into only one category, it is called mutually exclusive.
(iii) The best means to display data that is based on a trend over a period of time is the polygon.

- → ○ (i), (ii) and (iii) are all correct statements.
- ○ (i), (ii) and (iii) are all false statements.
- ○ (i) and, (iii) are correct statements but not (ii).
- ○ (ii) and (iii) are correct statements but not (i).

References

Multiple Choice Difficulty: Hard Learning Objective: 02-04 Create a frequency distribution for a data set.

93. Award: 10.00 points

(i) If you are constructing a stem-and-leaf display, the "20" in 20.5 would be the stem.
(ii) An advantage of a stem-and-leaf chart over a histogram is that the identity of each observation is not lost, and that it presents a picture of the distribution.
(iii) An advantage of a stem-and-leaf chart over a histogram is that it presents a picture of the distribution.

→ ○ (i), (ii) and (iii) are all correct statements.

○ (i), (ii) and (iii) are all false statements.

○ (i) and, (iii) are correct statements but not (ii).

○ (ii) and (iii) are correct statements but not (i).

References

Multiple Choice Difficulty: Hard Learning Objective: 02-08 Create and interpret a stem-and-leaf display.

94. Award: 10.00 points

(i) If you are constructing a stem-and-leaf display, the "20" in 20.5 would be the stem.
(ii) An advantage of a stem-and-leaf chart over a histogram is that the identity of each observation is not lost, and that it presents a picture of the distribution.
(iii) If you are constructing a stem-and-leaf display, the "20" in 20.5 would be the leaf.

○ (i), (ii) and (iii) are all correct statements.

○ (i), (ii) and (iii) are all false statements.

→ ○ (i) and, (ii) are correct statements but not (iii).

○ (ii) and (iii) are correct statements but not (i).

References

Multiple Choice Difficulty: Hard Learning Objective: 02-08 Create and interpret a stem-and-leaf display.

95. Award: **10.00 points**

(i) If you are constructing a stem-and-leaf display, the "20" in 20.5 would be the stem.
(ii) An advantage of a stem-and-leaf chart over a histogram is that the identity of each observation is not lost, and that it presents a picture of the distribution.
(iii) If you are constructing a stem-and-leaf display, the "2" in 20.5 would be the leaf.

- ○ (i), (ii) and (iii) are all correct statements.
- ○ (i), (ii) and (iii) are all false statements.
- → ○ (i) and (ii) are correct statements but not (iii).
- ○ (ii) and (iii) are correct statements but not (i).

References

Multiple Choice Difficulty: Hard Learning Objective: 02-08 Create and interpret a stem-and-leaf display.

96. Award: **10.00 points**

The following ages (rounded to the nearest whole year) of employees at a large company that were grouped into a distribution with class limits:

20 up to 30
30 up to 40
40 up to 50
50 up to 60
60 up to 70

(i) The class limits for the class 50 up to 60 class are 50 and 58.
(ii) The midpoint for the class 40 up to 50 is 45.
(iii) The class interval is 9.

- ○ (i), (ii) and (iii) are all correct statements.
- ○ (i), (ii) and (iii) are all false statements.
- → ○ (ii) is correct but not not (i) and (iii).
- ○ (ii) and (iii) are correct statements but not (i).

References

Multiple Choice Difficulty: Hard Learning Objective: 02-04 Create a frequency distribution for a data set.

97. Award: **10.00 points**

The following ages (rounded to the nearest whole year) of employees at a large company that were grouped into a distribution with class limits:

20 up to 30
30 up to 40
40 up to 50
50 up to 60
60 up to 70

(i) The class limits for the class 50 up to 60 class are 50 and 58.
(ii) The midpoint for the class 40 up to 50 is 45.
(iii) The class interval is 10.

- ○ (i), (ii) and (iii) are all correct statements.
- ○ (i), (ii) and (iii) are all false statements.
- ○ (i) and (ii) are correct statements but not (iii).
- → ○ (ii) and (iii) are correct statements but not (i).

References

Multiple Choice Difficulty: Hard Learning Objective: 02-04 Create a frequency distribution for a data set.

98. Award: **10.00 points**

The following ages (rounded to the nearest whole year) of employees at a large company that were grouped into a distribution with class limits:

20 up to 30
30 up to 40
40 up to 50
50 up to 60
60 up to 70

(i) The class limits for the class 50 up to 60 class are 50 and60.
(ii) The midpoint for the class 40 up to 50 is 45.
(iii) The class interval is 10.

- → ○ (i), (ii) and (iii) are all correct statements.
- ○ (i), (ii) and (iii) are all false statements.
- ○ (i) and (ii) are correct statements but not (iii).
- ○ (ii) and (iii) are correct statements but not (i).

References

Multiple Choice Difficulty: Hard Learning Objective: 02-04 Create a frequency distribution for a data set.

99. Award: 10.00 points

The following ages (rounded to the nearest whole year) of employees at a large company that were grouped into a distribution with class limits:

20 up to 30
30 up to 40
40 up to 50
50 up to 60
60 up to 70

(i) The class limits for the class 50 up to 60 class are 50 and 58.
(ii) The midpoint for the class 40 up to 50 is 40.
(iii) The class interval is 9.

- ○ (i), (ii) and (iii) are all correct statements.
- → ○ (i), (ii) and (iii) are all false statements.
- ○ (i) and (iii) are correct statements but not (ii).
- ○ (ii) and (iii) are correct statements but not (i).

References

Multiple Choice Difficulty: Hard Learning Objective: 02-04 Create a frequency distribution for a data set.

100. Award: 10.00 points

A student was studying the political party preferences of a university's student population. The survey instrument asked students to identify themselves as a Conservative or NDP. This question is flawed because:

- ○ Students generally don't know their political preferences.
- ○ The categories are generally mutually exclusive.
- → ○ The categories are not exhaustive.
- ○ Political preference is a continuous variable.

References

Multiple Choice Difficulty: Medium Learning Objective: 02-01 Create a frequency table for a set of data.