

Name: \_\_\_\_\_

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## 2005, Mathematics - Grade 10

### Question 36: Multiple Choice

*Data Analysis, Statistics, and Probability*

The table below shows the test scores of 7 students. The scores are in order from least to greatest.



### Test Scores

Student	Score
Janet	72
Mark	75
Luisa	77
Byron	81
Ray	84
Devin	86
Kamara	90

Which of the following would change the median of the scores?

- A. adding 5 points to Janet's score
- B. adding 5 points to Devin's score
- C. subtracting 5 points from Ray's score
- D. subtracting 5 points from Luisa's score

Name: \_\_\_\_\_

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## 2005, Mathematics - Grade 10

### Question 28: Multiple Choice

*Data Analysis, Statistics, and Probability*



Marcella's homeroom had a party at a local arcade. Each of the 26 students attending played the same game. Marcella recorded the number of points that each student scored for that game and put the data into score intervals. The results are shown in the chart below.

### Arcade Game Scores

Score Interval (in points)	Number of Students
0 through 100	4
101 through 200	6
201 through 300	4
301 through 400	7
401 through 500	3
501 through 600	2

Based on the information in the chart, which interval contains the median score?

- A. 101 through 200
- B. 201 through 300
- C. 301 through 400
- D. 401 through 500

Name: \_\_\_\_\_

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## 2005, Mathematics - Grade 10

### Question 30: Multiple Choice

*Data Analysis, Statistics, and Probability*

The stem-and-leaf plot below shows the scores on a history exam.



### Exam Scores

5	8
6	2 7
7	0 3 3 6
8	4 5 5
9	2 2 2 4 7
10	0

Key
6   2 represents 62

Which of the following measures of the data is greatest?

- A. mean
- B. median
- C. mode
- D. range

Name: \_\_\_\_\_

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## 2004, Mathematics - Grade 10

### Question 39: Multiple Choice

*Data Analysis, Statistics, and Probability*

Keesha and her family visit her grandparents once a month. Keesha recorded the driving time to her grandparents' house for 6 trips in the chart below.

#### Driving Times

Month	Time
January	3 hours, 23 minutes
February	3 hours, 5 minutes
March	3 hours, 50 minutes
April	3 hours, 52 minutes
May	3 hours, 15 minutes
June	3 hours, 35 minutes

Based on the data in the chart, what is the mean driving time to Keesha's grandparents' house?

- A. 3 hours, 23 minutes
- B. 3 hours, 26 minutes
- C. 3 hours, 30 minutes
- D. 3 hours, 35 minutes



Name: \_\_\_\_\_

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## 2005, Mathematics - Grade 10

### Question 22: Multiple Choice

*Data Analysis, Statistics, and Probability*



Four major underwater tunnels were constructed in New York City between 1925 and 1950. The tunnels and their lengths are listed in the chart below.

### New York City Tunnel Lengths

Tunnel Name	Length (kilometers)	Year Completed
Holland	2.6	1927
Lincoln	2.5	1937
Queens-Midtown	1.9	1940
Brooklyn-Battery	2.8	1950

Which of the following is closest to the mean of these four lengths?

- A. 2.20 kilometers
- B. 2.35 kilometers
- C. 2.45 kilometers
- D. 2.55 kilometers

Name: \_\_\_\_\_

## 2004, Mathematics - Grade 10

### Question 31: Open Response



*Data Analysis, Statistics, and Probability*

In an experiment, Sue and Helise asked each of 30 students in a random sample of the juniors at their school to record the number of minutes they watched television on a Saturday and Sunday in April. The results, rounded to the nearest 30 minutes, are shown in the table.

#### Minutes of Television Watching

Total Number of Minutes of Television Watched on Saturday and Sunday	Number of Junior Students
0	1
60	3
90	6
120	5
180	5
240	2
300	5
420	1
540	2

- What number of minutes spent watching television should the girls report as the mode for this group of students? Justify your answer.
- Helise said that the median number of minutes for this group of students is 180, but Sue disagreed. Do you agree with Sue or Helise? Justify your answer.
- Suppose that Sue and Helise had used the entire class of 185 juniors as their sample. Based on the results from their smaller sample, what total number of the 185 juniors would probably have reported watching 300 minutes of television on that weekend? Show or explain how you obtained your answer.

## 2004, Mathematics - Grade 10

### Question 18: Short Answer



*Data Analysis, Statistics, and Probability*

Latrice plans to ride her bicycle a mean of 80 miles per week. During the last four weeks, she has recorded distances of 76, 80, 82, and 74 miles. How many miles must Latrice ride this week to obtain a 5-week mean of 80 miles?

Name: \_\_\_\_\_

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## 2004, Mathematics - Grade 10

### Question 2: Multiple Choice

*Data Analysis, Statistics, and Probability*

The chart below shows the heights of 13 players on a women's basketball team.



### Basketball Team

Player	Height
1	5 ft. 4 in.
2	5 ft. 6 in.
3	5 ft. 7 in.
4	5 ft. 7 in.
5	5 ft. 7 in.
6	5 ft. 9 in.
7	5 ft. 9 in.
8	5 ft. 10 in.
9	5 ft. 11 in.
10	5 ft. 11 in.
11	6 ft.
12	6 ft. 1 in.
13	6 ft. 2 in.

If a player whose height is 6 feet 6 inches joined the team, which of the following statistical measures of players' heights would **not** change?

- A. mean
- B. median
- C. mode
- D. range

Name: \_\_\_\_\_

**2003, Mathematics - Grade 10**

**Question 21: Open Response**

*Data Analysis, Statistics, and Probability*



The highest possible score on a college admissions mathematics examination is 800. The stem-and-leaf plot shows the scores for a group of 20 students who were granted early admission to their chosen universities.

Stem	Leaf
68	0 5 5
70	0 0 5 5
71	5
73	0 0 5
74	0 5
75	0 5
78	0 0 5
80	0 0

Key	
68   0	= 680

- What is the median score for these 20 students? Show or explain how you obtained your answer.
- What is the range of the scores for these 20 students? Show or explain how you obtained your answer.
- What are the lower (first) quartile and the upper (third) quartile?
- Make a box-and-whisker plot that displays the same data given in the stem-and-leaf plot above. Be sure to label the minimum, the lower quartile, the median, the upper quartile, and the maximum on your box-and-whisker plot.

**2003, Mathematics - Grade 10**

**Question 19: Short Answer**

*Data Analysis, Statistics, and Probability*



The line plot below shows the average daily temperature in a city for each day during the month of April.

Average Daily Temperatures (°F)



What was the median temperature?

Name: \_\_\_\_\_

## 2002, Mathematics - Grade 10

### Question 29: Multiple Choice

*Data Analysis, Statistics, and Probability*

The average life spans of some animals are shown in the chart below.

#### Animal Life Spans

Animal	Average Life Span (in years)
Bear	22
Chicken	7
Deer	12
Dog	11
Duck	10
Elephant	35
Fox	9
Horse	22
Hippopotamus	30
Wolf	11
Source: Farmer's Almanac 2000.	

Based on the information given in the chart, which of the following statistics yields the greatest numerical value?

- A. mean
- B. median
- C. mode
- D. range

## 2001, Mathematics - Grade 10

### Question 40: Open Response

*Data Analysis, Statistics, and Probability*

A class of 25 students is asked to determine approximately how much time the average student spends on homework during a one-week period. Each student is to ask one of his/her friends for the information, making sure that no one student is asked more than once. The numbers of hours spent on homework per week are as follows:

8, 0, 25, 9, 4, 19, 25, 9, 9, 8, 0, 8, 25, 9, 8, 7, 8, 3, 7, 8, 5,  
3, 25, 8, 10

- a. Find the mean, median, and mode for these data. Explain or show how you found each answer.
- b. Based on this sample, which measure (or measures) that you found in part a best describes the typical student? Explain your reasoning.
- c. Describe a sampling procedure that would have led to more representative data.

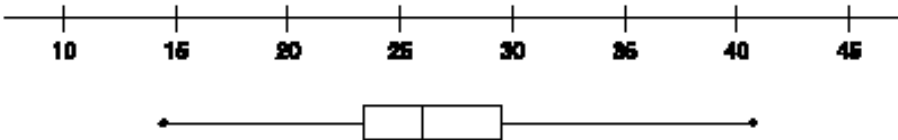
Name: \_\_\_\_\_

## 2001, Mathematics - Grade 10

### Question 39: Multiple Choice

*Data Analysis, Statistics, and Probability*

The box and whisker graph shown below represents the results of a survey of the estimated gas mileage of 100 car models.



Which statistics —mean, median, mode, range— can be determined from this graph?

- A. mean only
- B. median only
- C. range and mean
- D. range and median

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## 2001, Mathematics - Grade 10

### Question 36: Multiple Choice

*Data Analysis, Statistics, and Probability*

The mean salary of the ten clerks at the Corner Shop was \$8.50 per hour. One of the clerks, who had been making \$9.50 per hour, was given a raise of \$1.00 per hour. What is the new mean salary of the ten clerks?

- A. \$8.50
- B. \$8.60
- C. \$8.80
- D. \$9.00

Name: \_\_\_\_\_

## 2000, Mathematics - Grade 10

### Question 31: Multiple Choice

*Patterns, Relations, and Algebra*



The same six students rated two science fiction movies on a scale of 1 to 10. The results are shown in the table below.

STUDENT	MOVIE 1 RATING	MOVIE 2 RATING
A	3	6
B	5	7
C	6	6
D	7	6
E	8	5
F	8	7

The ratings for the two movies have the same

- A. median.
- B. mean.
- C. mode.
- D. range.

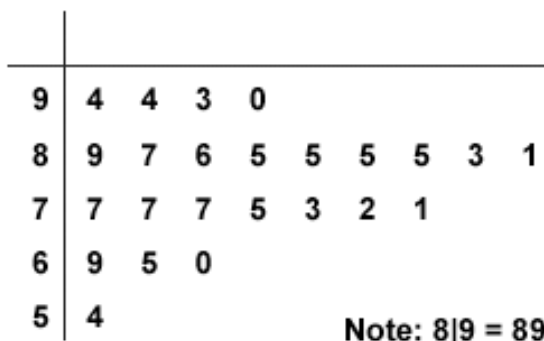
## 2000, Mathematics - Grade 10

### Question 10: Multiple Choice

*Patterns, Relations, and Algebra*



Mr. Spruce displayed the student scores in math class using the stem-and-leaf plot shown below.



The median student score is

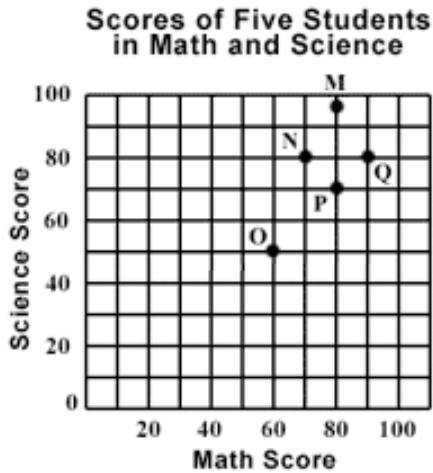
- A. 82.
- B. 81.
- C. 88.
- D. 85.

Name: \_\_\_\_\_

**1999, Mathematics - Grade 10**  
**Question 18: Multiple Choice**

*Patterns, Relations, and Algebra*

Use the graph below to answer question 18.



What is the best estimate of the **mean** of the science test scores for all five students?

- A. 75
- B. 80
- C. 85
- D. 95

**1999, Mathematics - Grade 10**  
**Question 11: Short Answer**

*Patterns, Relations, and Algebra*

To earn a grade of B in math, Melvin must achieve an average score of at least 83 on five math tests. His scores on the first three tests are 85, 90, and 80. What is the lowest **total** score that Melvin must have on the last two tests to earn a B test average?

**1998, Mathematics - Grade 10**  
**Question 31: Short Answer**

*Patterns, Relations, and Algebra*

In Ms. Amud's math class, the final class grades showed the following statistics:

- mean = 85
- median = 85
- range = 20

If nine students were in the class, list a possible set of scores.

Name: \_\_\_\_\_

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## 1998, Mathematics - Grade 10

### Question 14: Multiple Choice

*Patterns, Relations, and Algebra*



In a bowling tournament, there were 2 scores in the 200s, 6 scores in the 180s, 5 scores in the 160s, 5 in the 150s, and 3 in the 130s. The **median** score would be in the

- A. 150s.
  - B. 160s.
  - C. 180s.
  - D. There is not enough information given.
-