

# Essential Math 40S

## Statistics Review

NOT FOR HAND IN

Complete the following review questions to help you prepare for the Statistics Unit Test. Round answers to two decimal places where necessary. Answers have been provided at the back of this review – please check your answers as you go.

1. Drivers moving through an intersection in Winnipeg had their speed monitored. The most recent eight drivers were travelling at the following speeds (in km/h):

48	36	48	51
32	17	42	63

Determine the mean, median, and mode of this data.

2. The yearly salaries of the starting 9 players on the Toronto Blue Jays baseball team are as follows, in millions of dollars:

Baseball Player's Salaries		
0.32	0.55	0.19
0.74	0.36	1.92
0.41	0.27	0.25

- a) Calculate the mean salary (in millions of dollars) of the starting nine players.
- b) Calculate the trimmed mean salary (in millions of dollars) for the starting nine players if you trim the top and bottom values.
- c) State which mean salary you feel better represents the 'average' salary of the starting nine players. Justify your answers.
3. Keiko is a student in a Physics class at W.A.E.C. Her marks and mark weighting is shown in the table below:

Category	Mark (%)	Weight (%)
Assignments	82	10
Lab Work	95	20
Tests	67	45
Final Exam	72	25

Calculate Keiko's final mark using a weighted mean.

4. A shoe store recorded the data below, which shows the number of pairs of shoes sold last month at each size.

shoe size	# of pairs sold last month
7	22
8	35
9	48
10	51
11	37
12	13

Use the weighted mean formula to determine the average shoe size of the people buying shoes last month.

5. The table below shows the number of after-school activities for 16 different children.

0	0	0	1
1	1	1	2
2	3	3	3
3	3	5	11

Calculate the percentile rank of a student that participates in 2 after-school activities.

6. Gord once applied for a job at The Home Depot™. He needed to score 90% or greater on a math test before they would grant him an interview. Gord found out through a friend that his percentile rank on the test was  $P_{18}$ .

Does Gord's percentile rank guarantee that he will not get an interview? Justify your answer.

7. Adowa just had a baby – a super chubby baby! Of the 44 babies born at the hospital that month, Adowa's baby weighed less than only 3 other babies. Calculate the percentile rank of the weight of Adowa's baby.

## Answers

1. mean: 42.13    median: 45    mode: 48
2. a) 0.56 million    b) 0.41 million    c) trimmed mean, outlier of 1.92 skews too far upward
3. 75.35%
4. 9.41
5.  $P_{44}$
6. It does not – he may have scored higher than 90% but been worse than most other people.
7.  $P_{91}$