

## Unit 4 Practice Test

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- 1) A teacher asks her class who is going to prom, rather than poll the whole school. This is an example of what type of sampling method? (MM2D1a)

A) Self-selected      B) Systematic  
C) Convenience      D) Random

- 3) Find the MODE, MEDIAN and MEAN of the data set {46,50,51,51,52,57,71} (MM2D1b)

A) 54,51,51      B) 51,51,54  
C) 51,54,51      D) 51,51,51

- 5) The hourly wages at a factory are normally distributed with a mean of \$9.75 and a standard deviation of \$0.50. What is the probability that a random employee's wage is NOT between \$9.25 and \$10.25? (MM2D1d)

A) 2.35%      B) 5%  
C) 32%      D) 68%

- 2) Find the average monthly sales: (MM2D1b)

Month 1: 38      Month 4: 34  
Month 2: 22      Month 5: 46  
Month 3: 13      Month 6: 33

A) 30      B) 31  
C) 32      D) 33

- 4) The frequency table shows the height of students in a class. Find the approximate standard deviation for this data. (MM2D1b)

height | frequency

12	1
13	5
14	7
15	9
16	8
17	4
18	2

A) 1.0 inch      B) 1.5 inches  
C) 2.5 inches      D) 3.5 inches

- 6) Kevin is 55 inches tall. The heights of all the students in his class are normally distributed with an average of 60 inches and a standard deviation of 2.1 inches. What is the approximate z-score for Kevin's height? (MM2D1d)

A) 2.4      B) 1.4  
C) -1.4      D) -2.4

- 7) Two students tracked their quiz scores over the semester. Their grades are shown below. Who has the higher means and/or standard deviation. (MM2D1c)

Student A

70, 71, 71, 75, 70, 72, 74, 76, 77, 77, 79

Student B

70, 70, 78, 79, 76, 76, 76, 76, 74, 72, 77, 79

- A) Student A has a higher standard deviation and mean than student B  
 B) Student B has a higher standard deviation and mean than student A  
 C) Student B has a higher mean, Student A has a higher standard deviation  
 D) Student A has a higher mean, Student B has a higher standard deviation
- 8) What is the range and the approximate standard deviation for:  
 {50, 14, 13, 81, 17, 65, 90, 82}
- A) Range=72, StdDev=31  
 B) Range=72, StdDev=48  
 C) Range=77, StdDev=48  
 D) Range=77, StdDev=31
- 9) The heights of 3 year olds at a preschool averages 48 inches, with a standard deviation of 2.2 inches. Estimate the probability that a randomly selected 3-year old is NOT between 45.8 and 52.4 inches in height. (MM2D1d)
- A) approx 82%      B) approx 14%  
 C) approx 18%      D) approx 95%
- 10) A factory produces a thing-a-ma-jig that production records show has a mean weight of 8 grams, with a standard deviation of 1 grams. Estimate the percentage of thing-a-ma-jigs with a weight greater than 6 grams.
- A) 97%      B) 16%  
 C) 34%      D) 66%
- 11) What is the VARIANCE of this data:  
 {3,4,5,6,3,4,5,6,3}
- A) 1.33      B) 1.15  
 C) 2.01      D) 3.12
- 12) Given a MEAN raw score of 40, and a standard deviation of 1.7... find the z-score for a raw score of 45.
- A) 2.9      B) 1.5  
 C) -2.9      D) -1.5
- 13) Write the formula for converting a raw score into a z-score(MM2D1b)
- A)  $z = x \cdot StdDev - Mean$   
 B)  $z = \frac{StdDev - Mean}{x}$   
 C)  $z = \frac{x - StdDev}{Mean}$   
 D)  $z = \frac{x - Mean}{StdDev}$
- 14) The standard deviation of a data set is 4. If 25 is 3 standard deviations below the mean, what is the mean?
- A) 25      B) 37  
 C) 13      D) 15

## Answers to Unit 4 Practice Test (ID: 1)

- 1) C
- 5) C
- 9) C
- 13) D

- 2) B
- 6) D
- 10) A
- 14) B

- 3) B
- 7) C
- 11) A

- 4) B
- 8) D
- 12) A