

# Math 221: Basic Statistics Exam #1A

Week #5

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

**INSTRUCTIONS:** You may use a calculator for this exam and a letter-sized study sheet with information written on a single side. **You must show all of your work in order to receive full credit.** Read each question carefully. Be certain that you have answered the question that was asked. Answers supplied as decimals must be accurate to *at least four decimal digits*.

Problem	Points	Score
1	13	
2	15	
3	15	
4	15	
5	13	
6	13	
7	13	
8	13	
Total	110	

(1) A Gallup poll conducted on April 1-2, 2005, using telephone interview of national adults aged 18 and older found that 72% of the 1040 people had traveled to find the cheapest gas in their area due to the increase in gas prices.

(a) Identify the pol's

(2) Given the following five data variables indicate which ones are **numerical** and which **categorical**

(3) Given the following specific gravity values for various wood types used in construction modified from those that appeared in the article "Bolted Connection Design Values Based on European Yield Model" is listed below.

24	25	28	29	31	36	36	42	44	44	45	46	48	48	49
49	53	54	55	55	56	56	57	57	57	60	61	63	63	66

- (4) In a study of warp breakage during the weaving of fabric, 41 specimens of yarn were tested. The number of cycles of strain to breakage was determined for each yarn specimen, resulting in the following data:



(6) Below is a list of 20 randomly selected popes and the (approximate) number of years that they each led the Catholic Church. Calculate the **mode**

- (7) Use the same data to calculate the range **R**, the variance **S<sup>2</sup>** and the standard deviation **S** of the papal reigns. (*Hint:*  $\sum x^2$ )



**Math 221: Basic Statistics Exam #1B**

Week #5

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

**INSTRUCTIONS:** You may use a calculator for this exam and a letter-sized study sheet with information written on a single side. **You must show all of your work in order to receive full credit.** Read each question carefully. Be certain that you have answered the question that was asked. Answers supplied as decimals must be accurate to *at least four decimal digits*.

Problem	Points	Score
1	13	
2	15	
3	15	
4	15	
5	13	
6	13	
7		



(2) Given the following five data variables indicate which ones are





(5) The following represents the U.S. governments expenses (in billions of dol-

(6) Below is a list of 20 randomly selected popes and the (approximate) number of years that they each led the Catholic Church. Calculate the



- (8) In 2004, Forbes magazine published a list of the top 400 Richest Americans. 16 of the top 50 richest Americans are listed below. Construct a **five number summary** and a

# Math 221: Basic Statistics Exam # 1C

Week #5

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

**INSTRUCTIONS:**

(1) A Gallup poll conducted on April 1-2, 2005, using telephone interview of





- (4) In a study of warp breakage during the weaving of fabric, 41 specimens of yarn were tested. The number of cycles of strain to breakage was determined for each yarn specimen, resulting in the following data:

264	38	180	20	653	135	393	198	284	38	325	157	364	166
61	224	203	65	131	341	196	321	90	188	236	353	15	396
398	315	829	193	229	338	246	188	194	176	105	124	229	

(5) The following represents the U.S. governments expenses (in billions of dol-

- (6) Below is a list of 20 randomly selected popes and the (approximate) number of years that they each led the Catholic Church. Calculate the **mode**, **midrange**, **mean** and **median**.

Pope	Year(s)
Leo XIII	26
St. Paul I	11
Pius II	7
Innocent X	12
St. Leo III	22
Stephen IX	4
Alexander VII	13
Blessed John XXIII	6
St. Stephen I	4
Benedict VII	10
St. Eusebius	2
John X	15
Julius III	6
St. Sixtus III	9
St. Boniface IV	8
St. Anicetus	12
St. Miltiades	4
St. Boniface I	5
Gregory XI	9
Leo VIII	2



(8) In 2004, Forbes magazine published a list of the top 400 Richest Americans.

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# Math 221: Basic Statistics Exam #1M

Week #5

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

**INSTRUCTIONS:**







(4) In a study of warp breakage during the weaving of fabric, 41 specimens of yarn were tested. The number of cycles of strain to breakage was determined for each yarn specimen, resulting in the following data:

248	28	200	19	640	143	409	202	282	56	321	162	349	185
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- (5) The following represents the U.S. governments expenses (in billions of dollars) for 8 major categories in 1940. Complete the chart supplying decimals to 2 digits and plot a **Pareto diagram**.

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Category	Expense	Relative Expense (%)
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- (6) Below is a list of 20 randomly selected popes and the (approximate) number of years that they each led the Catholic Church. Calculate the **mode**, **midrange**, **mean** and **median**.

Pope	Year(s)
St. Dionysius	9
Leo XI	1
Benedict XIII	7
St. Sixtus I	11
St. Hyginus	5
St. Eleutherius	15
St. Sixtus II	2
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- (7) Use the same data to calculate the range  $\mathbf{R}$ , the variance  $\mathbf{S}^2$  and the standard deviation  $\mathbf{S}$  of the papal reigns. (*Hint:*  $x^2 = 1754$ )

