## **Chapter 2—Norms and Basic Statistics for Testing**

## **MULTIPLE CHOICE**

1.	When you assert that you are using a. descriptive statis b. scale c. reliability d. inferential statist	tics	probable that t	he mear	n intelligence test score of a particular group is 100
	ANS: D	PTS:	1	REF:	Why We Need Statistics
2.	Statistical procedures a. inferential statist b. descriptive statis c. scales. d. ratios.	ics.	mmarize and d	escribe	a series of observations are called
	ANS: B	PTS:	1	REF:	Why We Need Statistics
3.	Statistical procedures sample are called a. populations. b. descriptive statis c. inferential statist d. ratios.	tics.	low one to mak	ce infere	ences about large groups by examining a smaller
	ANS: C MSC: www	PTS:	1	REF:	Why We Need Statistics
4.	Which of the followi a. confirmatory dat b. tests of statistical c. factor analysis d. psychometrics	a analys	sis	nst rigic	l statistical rules?
	ANS: A	PTS:	1	REF:	Why We Need Statistics
5.	Trial by judge and ju a. theoretical assum b. reliability and va c. underlying const d. exploratory data	nptions lidity ructs		igation	and prosecution as confirmatory data analysis is to
	ANS: D	PTS:	1	REF:	Why We Need Statistics
6.	Scales of measureme a. magnitude, absol b. magnitude, relative c. numbers, relative d. magnitude, absol	lute mea ve zero e zero, a	asurement, and , and equal inte and equal interv	equal in ervals. vals	
	ANS: D	PTS:	1	REF:	Scales of Measurement

7.	Which of the follows a. ordinal b. interval c. nominal d. ratio	ing scale	es has the prope	erties of	magnitude, absolute zero, and equal intervals?
	ANS: D	PTS:	1	REF:	Scales of Measurement
8.	A scale that allows of comparison to anoth a. nominal b. ordinal c. interval d. ratio		-		s more, less, or an equal amount of the attribute in scale.
	ANS: B	PTS:	1	REF:	Scales of Measurement
9.	A property of a scale a. magnitude. b. absolute zero. c. equal interval. d. ratio.	that im	plies the comp	lete abs	ence of the measured attribute is called a(n)
	ANS: B	PTS:	1	REF:	Scales of Measurement
10.	Many feel that the di an IQ 70 and 75. The a. absolute zeroes b. magnitudes c. ratios d. equal intervals				and 105 is not the same as the difference between ck
	ANS: D MSC: www	PTS:	1	REF:	Scales of Measurement
11.	Which of the following quantitative?  a. ordinal  b. interval  c. nominal  d. ratio	ing scale	es would be use	ed wher	the information is qualitative rather than
	ANS: C	PTS:	1	REF:	Scales of Measurement
12.					ement of a scale (strength) and an outcome (pounds $+bX$ , the scale is said to have what property?
	ANS: B	PTS:	1	REF:	Scales of Measurement

13.	<ul><li>a. nominal</li><li>b. ordinal</li></ul>	your ca	r is an example	of wha	at kind of scale measurement?		
	<ul><li>c. interval</li><li>d. ratio</li></ul>						
	ANS: D	PTS:	1	REF:	Scales of Measurement		
14.	A scale that allows udifferences between a. nominal scale. b. ordinal scale. c. interval scale. d. ratio scale.			r object	s, but not to say anything about the meaning of the		
	ANS: B	PTS:	1	REF:	Scales of Measurement		
15.	The Fahrenheit scale a. nominal. b. ordinal. c. interval. d. ratio.	of temp	perature (32°F=	= freezii	ng; 212°F= boiling) is best described as		
	ANS: C	PTS:	1	REF:	Scales of Measurement		
16.	In which scales can ya. nominal scale and b. ordinal scale and c. interval scale and d. ratio scale and in	d ordina l interva d nomin	al scale l scale al scale	nterpre	tation of an arithmetic operation such as addition?		
	ANS: D	PTS:	1	REF:	Scales of Measurement		
17.	Which type of scale a. nominal b. ordinal c. interval d. ratio	simply 1	anks observati	ons?			
	ANS: B	PTS:	1	REF:	Scales of Measurement		
18.	<ul> <li>An equal interval is found in which of the following?</li> <li>a. telephone numbers</li> <li>b. rulers</li> <li>c. National Football League team standings</li> <li>d. ethnicity distribution</li> </ul>						
	ANS: B	PTS:	1	REF:	Scales of Measurement		
19.	What do the rules us a. Transform the qu b. Identify and corn c. Relate individua d. Allow for the de	ualities of ect for p l scores	of attributes intootential source to those of the	o numbes of bia normat	as. ive populations.		
	ANS: A	PTS:	1	REF:	Scales of Measurement		

20.	If a scale allows one attribute as another a. cross validity b. measurement c. magnitude d. comparativity				stance has more, less, or the same amount of an ve		
	ANS: C	PTS:	1	REF:	Scales of Measurement		
21.	If the relationship be line or linear equation a. predictive valid b. magnitude c. linear significant d. equal intervals	on, the so ity			s and some outcome can be described by a straight		
	ANS: D	PTS:	1	REF:	Scales of Measurement		
22.	Which type of scale absolute zero?  a. ordinal b. nominal c. ratio d. interval	does no	t have magnitu	de, doe	s not have equal intervals, and does not have an		
	ANS: B	PTS:	1	REF:	Scales of Measurement		
23.	Which type of scale a. ordinal b. nominal c. ratio d. interval	has mag	gnitude and equ	ıal inter	vals, but does not have an absolute zero?		
	ANS: D	PTS:	1	REF:	Scales of Measurement		
24.	<ul> <li>a. multiplication by transform equations</li> <li>b. creation of frequency distributions</li> <li>c. comparison of scores to determine relative quantities</li> <li>d. identification of construct validity</li> </ul>						
	ANS: B	PTS:	1	REF:	Scales of Measurement		
25.	cases. b. They are a meast c. They must be cod. While they are uratio scales.	io of the surement omputed useful in	number of case of the extent to in order to use describing non	es below o which most so ninal sc	w a score of interest to the total number of a scores are normally distributed. tatistical analysis techniques. ales, they cannot be used with interval and		
	ANS: A	PTS:	1	KEF:	Scales of Measurement		

on the horizonta on the vertical as in the legend. in the title.  S: A  There are more peopribution does this normal positively skews bell curve  S: B  There are more peopribution does this normal positively skews bell curve are more peopribution does this normal positively skews bell curve bell curve.	I axis. xis.  PTS: ble with is illustrated ed PTS:	he scores, from  1 incomes on the te?	REF:	Scales of Measurement t to highest, are typically arranged  Frequency Distribution ad as compared to the high end. What kind of  Frequency Distribution		
on the horizonta on the vertical as in the legend. in the title.  S: A  There are more peopribution does this normal positively skews bell curve  S: B  There are more peopribution does this normal positively skews bell curve are more peopribution does this normal positively skews bell curve bell curve.	I axis. xis.  PTS: ble with is illustrated ed PTS:	1 incomes on the te?	REF:	Frequency Distribution and as compared to the high end. What kind of		
re are more peopribution does this normal positively skews negatively skews bell curve  S: B  order to rank group, you would use	ole with its illustrated ed PTS:	incomes on the te?	low en	nd as compared to the high end. What kind of		
ribution does this normal positively skews negatively skews bell curve S: B order to rank grou s, you would use	s illustra ed ed PTS:	te? 1				
order to rank grou , you would use	ıp memb		REF:	Frequency Distribution		
, you would use	_	ers in relations				
class interval. simple rank. percentile rank. mean.			ship to t	the number of other members of groups of arbitrary		
S: C	PTS:	1	REF:	Percentile Ranks		
In order to calculate a percentile rank, you need to know a. how many cases are below the score of interest. b. whether the distribution is normal or skewed. c. the standard deviation of the scores. d. the nature of the underlying scale.						
S: A	PTS:	1	REF:	Percentile Ranks		
	50 peopl	le in your class	and yo	u obtained the 20th highest score. Your percentile		
20. 40. 50. 60.			REF:	Percentile Ranks		
	would be 20. 40. 50.	would be 20. 40. 50.	would be 20. 40. 50.	would be 20. 40. 50. 60.		

32.	A percentile rank is a a. actual performan b. relative performa c. absolute perform d. peak performance	ce. ince. ance.	re of				
	ANS: B	PTS:	1	REF:	Percentile Ranks		
33.	Suppose you are in that a. you are among the b. 87% of the stude c. you got 87% of the stude d. 87% of the stude d.	ne top 1 nts got he test i	3 students in that score lower the terms correct.	e class. nan you	urs.		
	ANS: B	PTS:	1	REF:	Percentiles		
34.	Calculate the mean for a. 3.0 b. 4.5 c. 5.5 d. 6.0	or the fo	ollowing set of	scores:	4, 8, 3, 7.		
	ANS: C	PTS:	1	REF:	Describing Distributions		
35.	In statistics, the Rom a. the variance of a b. the variance of a c. the standard devi d. the standard devi	populat sample ation of	tion. f a population.				
	ANS: D	PTS:	1	REF:	Describing Distributions		
36.	<ul> <li>6. The standard deviation</li> <li>a. reflects the similarity among a set of scores.</li> <li>b. equals the sum of all scores minus the mean squared.</li> <li>c. is an approximation of the average deviation around the mean.</li> <li>d. always equals 0.</li> </ul>						
	ANS: C	PTS:	1	REF:	Describing Distributions		
37.	A measure of how man a. mean. b. frequency. c. variance. d. median.	uch sco	res within a dis	stributio	on differ among themselves is the		
	ANS: C MSC: www	PTS:	1	REF:	Describing Distributions		
38.	If you are given $\overline{X}$ = a. 2.0 b. 14.25 c. 16.0 d. 30.5	= 57 and	1 S = 4, what is	the var	iance?		
	ANS: C	PTS:	1	REF:	Describing Distributions		

	which set of sco	res below contains in	e most variability?	
	a. 15	b. 3	c. 1 d. 25	
	15	4	4 27	
	15	3	2 25	
	15	4	5 27	
	15	3	1 25	
	15	4	6 27	
	ANS: C	PTS: 1	REF: Describing Distributions	
40.			and the mean, divided by the standard deviation.	
	c. tells us how	•	ions the score is below the mean.	
	ANS: A	PTS: 1	REF: Describing Distributions	
41.	In a distribution va12 b2 c. 2 d. 12	where $X = 21$ and $S =$	3, what is the Z-score of a raw score of 15?	
	ANS: B	PTS: 1	REF: Describing Distributions	
42.	When deviation s a. indeterminate b. < 0. c. 0. d. > 0.		an are added up, their mean will be	
	ANS: C	PTS: 1	REF: Describing Distributions	
43.	In a symmetrical a. ends of the d b. center of the c. top of the dis d. bottom of the	istribution. distribution. stribution.	distribution, the greatest frequency of scores is ne	ar the
	ANS: B	PTS: 1	REF: Describing Distributions	
44.	<ul><li>a. &lt; 0.</li><li>b. exactly 0.</li><li>c. &gt; 0.</li></ul>	I to the mean, its $Z$ so	core will be	
	d. impossible to	carculate.		

45.	<ul> <li>A Z score of 1.0 is a</li> <li>a. 16th percentile.</li> <li>b. 50th percentile.</li> <li>c. 75th percentile.</li> <li>d. 84th percentile.</li> </ul>		d with approxi	mately t	he
	ANS: D	PTS:	1	REF:	Describing Distributions
46.	The square root of ta. true variance. b. standard deviations. c. mean. d. variability of the	on.			
	ANS: B	PTS:	1	REF:	Describing Distributions
47.	One advantage of u.  a. you do not need b. they can show t c. they are easier t d. you don't need to	I to knov he effect to interpr	the mean. s of test bias. et.	eviation	
	ANS: C	PTS:	1	REF:	Describing Distributions
48.	A Z score of 0 would a. 0 b. 1 c. 16 d. 50 ANS: D		pond to approx		what percentile?  Describing Distributions
40					-
49.	A Z score of 3 is ap a. 0 b. 3 c. 6 d. 99	proxima	tely how many	standar	d deviations above the mean?
	ANS: B MSC: www	PTS:	1	REF:	Describing Distributions
50.	A Z score of -1 word a. 0 b. 16 c. 50 d. 84	ıld corres	spond to appro	ximately	y what percentile?
	ANS: B	PTS:	1	REF:	Describing Distributions
51.	A score at the 98th; a. 0 b. 1 c. 2 d. 98	percentil	e is approxima	tely hov	w many standard deviations above the mean?
	ANS: C	PTS:	1	REF:	Describing Distributions

52.	A score at the 50th per a. 0 b. 1 c. 2 d. 50	ercentile is approxima	tely hov	w many standard deviations above the mean?
	ANS: A	PTS: 1	REF:	Describing Distributions
53.	<ul><li>b. a mean of 5 and a</li><li>c. a mean of 10 and</li></ul>	ve a standard deviation of a standard deviation of a standard deviation a standard deviation	f 2. of 2.	
	ANS: D	PTS: 1	REF:	Describing Distributions
54.	Approximately what a. 1% b. 16% c. 34% d. 50%	percentage of scores f	alls belo	ow the mean in a standard normal distribution?
	ANS: D	PTS: 1	REF:	Describing Distributions
55.	<ul><li>b. more scores fall a</li><li>c. more scores fall b</li></ul>	s cluster on the ends of above the mean than be pelow the mean than a	elow th	e mean.
	ANS: D	PTS: 1	REF:	Describing Distributions
56.	Distributions of score a. 5 b. 9 c. 10 d. 25	es can be divided into	how ma	any equal deciles?
	ANS: C	PTS: 1	REF:	Describing Distributions
57.	A raw score is also ca a. estimated score. b. predicted score. c. sigma. d. obtained score.	alled a(n)		
	ANS: D	PTS: 1	REF:	Describing Distributions
58.	Interquartile range is a. bottom 25% of the b. middle 25% of the c. middle 50% of the d. top 50% of the di	ne distribution. ne distribution. ne distribution.		
	ANS: C	PTS: 1	REF:	Describing Distributions

	<ul><li>a. below Q2.</li><li>b. above Q2.</li><li>c. below Q3.</li><li>d. above Q3.</li></ul>				
	ANS: C	PTS:	1	REF:	Describing Distributions
60.	What system is stand a. decile b. McCall's <i>T</i> c. stanine d. quartile	ardized	to have a mean	1 of 5 a	nd a standard deviation of approximately 2?
	ANS: C	PTS:	1	REF:	Describing Distributions
61.	Within the quartile sy a. 20th percentile. b. 50th percentile. c. 75th percentile. d. 80th percentile.	ystem, ti	he 2nd quartile	is the	
	ANS: B	PTS:	1	REF:	Describing Distributions
62.	If you score in the up a. you scored in the b. you scored in the c. you scored better d. you scored better	25th pe 75th pe than 1/	ercentile or highercentile or higher 4 of all people.	her.	
	ANS: B	PTS:	1	REF:	Describing Distributions
63.	The mean of a standa a. is zero. b. is a norm. c. never changes. d. is always a Z sco		on sample		
	ANS: B	PTS:	1	REF:	Norms
64.	The performance by a. quartile. b. median. c. norm. d. tracking score.	a define	ed group on a p	articula	r test is called a(n)
	ANS: C	PTS:	1	REF:	Norms

59. Three fourths of all scores in a distribution fall

65.		s your chi				25th percentile for weight at age 2. she is staying near the 25th percentile.
	ANS: A	PTS:	1	REF:	Norms	
66.	Comparing an indi a. tracking. b. within-group n c. norm monitori d. criterion monit	orming. ng.	st score only w	ith mei	mbers of his/he	r own racial group is an example of
	ANS: B	PTS:	1	REF:	Norms	MSC: www
67.	The Triple ZZZ Copool was comprise a. translocation. b. normalization. c. overselection. d. representatives	d of black				wever, only 50% of the applicant
	ANS: C	PTS:	1	REF:	Norms	
68.	In the Civil Rights a. within-group n b. employers wer c. within-group n d. employers wer	orming ware prohibite warming wa	as made legal. ed from using t as made illegal	est sco	_	cisions.
	ANS: C	PTS:	1	REF:	Norms	
69.	A test that compare a. a transformed b. a criterion-refe c. a norm-referen d. a within-group	test. erenced test aced test.	t.	m is ca	lled	
	ANS: C	PTS:	1	REF:	Norms	
70.	trouble with assign a. criterion-refere b. norm-reference c. personality d. projective	ments that enced ed	involved writi	ing pap	ers. She probal	ry well in reading but was having bly took what kind of test?
	ANS: A	PTS:	1	KEF:	Norms	

## **ESSAY**

1. Develop an example of each of the following scales: nominal, ordinal, interval, and ratio.

ANS:

Answer not provided.

PTS: 1

REF: Scales of Measurement

2. Explain why the mean of a distribution of Z scores is equal to 0.

ANS:

Answer not provided.

PTS: 1

**REF:** Describing Distributions

3. Compare and contrast norm-referenced and criterion-referenced tests.

ANS:

Answer not provided.

PTS: 1

**REF:** Norms

4. Compute the percentile rank for each of the following scores. Show your work.

17, 42, 36, 9, 11, 24, 23, 44, 41, 29

ANS:

Answer not provided.

PTS: 1 REF: Percentile Ranks