

تم تحميل هذا الملف من موقع المناهج الإماراتية



أسئلة الوحدة الثامنة الاحصاء الاستدلالي Statistics Inferential وفق الهيكل الوزاري

موقع المناهج ← المناهج الإماراتية ← الصف الحادي عشر المتقدم ← رياضيات ← الفصل الأول ← ملفات متنوعة ← الملف

تاريخ إضافة الملف على موقع المناهج: 2024-11-01 19:48:17

ملفات اكتب للمعلم اكتب للطالب | اختبارات الكترونية | اختبارات | حلول | عروض بوربوينت | أوراق عمل
منهج انجليزي | ملخصات وتقارير | مذكرات وبنوك | الامتحان النهائي للمدرس

المزيد من مادة
رياضيات:

إعداد: عماد عودة

التواصل الاجتماعي بحسب الصف الحادي عشر المتقدم



صفحة المناهج
الإماراتية على
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

المزيد من الملفات بحسب الصف الحادي عشر المتقدم والمادة رياضيات في الفصل الأول

الهيكل الوزاري الجديد المسار النخبة منهج ريفيل

1

الهيكل الوزاري الجديد المسار المتقدم منهج ريفيل

2

الهيكل الوزاري الجديد المسار المتقدم منهج بريدج

3

الهيكل الوزاري الجديد المسار المتقدم منهج ريفيل

4

مراجعة الهيكل 2025-2024

Module 8

Inferential Statistics

11 Advanced

ملاحظة

تم دمج السؤال 4 (اختيار من متعدد) مع السؤال 17 (كتابي) حيث ان الأسئلة المستهدفة نفسها في كلا السؤالين



Q14	Learning Outcome/Performance Criteria**	Lesson 8-1	Exercise	Page
MCQ	Classify and analyze samples	Random Sampling	1-10 & 21-23	375 & 377

Identify each sample, and suggest a population from which it was selected. Then classify the sample as *simple random*, *systematic*, *self-selected*, *convenience*, or *stratified*. Explain your reasoning.

1. Berton divides his sports T-shirts by team. Then he randomly selects four T-shirts from each team and records the size.

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2. The project manager at a new business inspects every tenth smart phone produced to check that it is operating correctly.

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3. A grocery store manager asks its customers to submit suggestions for items on the salad bar during the week.

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Q14	Learning Outcome/Performance Criteria**	Lesson 8-1	Exercise	Page
MCQ	Classify and analyze samples	Random Sampling	1-10 & 21-23	375 & 377

Identify each sample or question as *biased* or *unbiased*. Explain your reasoning.

4. A random sample of eight people is asked to select their favorite food for a survey about Americans' food preferences.

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5. Every tenth student at band camp is asked to name his or her favorite band for a survey about the campers.

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6. Every fifth person entering a museum is asked to name his or her favorite type of book to read for a survey about reading interests of people in the city.

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Q14	Learning Outcome/Performance Criteria**	Lesson 8-1	Exercise	Page
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Identify each sample or question as *biased* or *unbiased*. Explain your reasoning.

7. Do you think that the workout facility needs a new treadmill and racquetball court?

8. Which is your favorite type of music, pop, or country?

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9. Are you a member of any after-school clubs?

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10. Don't you agree that employees should pack their lunch?

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Q14	Learning Outcome/Performance Criteria**	Lesson 8-1	Exercise	Page
MCQ	Classify and analyze samples	Random Sampling	1-10 & 21-23	375 & 377

Classify each sample as *simple random, systematic, self-selected, convenience, or stratified*. Then determine whether each situation describes a *survey, an observational study, or an experiment*.

21. To determine the music preferences of their customers, the manager of a music store selected 10 customers in the store to participate in an interview.

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22. Administrators at a community library want to know the type of materials patrons are most likely to use. Every Friday, they record the type of media each patron uses.

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Classify each sample as *simple random, systematic, self-selected, convenience, or stratified*. Then determine whether each situation describes a *survey, an observational study, or an experiment*.

23. To determine whether the school should purchase new computer software, the technology team divides a group of 50 students into two groups by age. Half of the students from each age group are randomly selected to complete an activity using the current computer software, and the other half of the students from each group complete the same activity using the new computer software. The students' actions are recorded and analyzed.

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Q15	Learning Outcome/Performance Criteria**	Lesson 8-2	Exercise	Page
MCQ	Find and compare experimental and theoretical probabilities	Using Statistical Experiments	1-5	383

1. A student spun a spinner with 4 equal sections 100 times and recorded the results.

Spinner Section	Frequency
Red	35
Blue	38
Green	13
Yellow	14

a. Find the theoretical probability of spinning blue.
Write your answer as a percentage rounded to the nearest tenth, if necessary.

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b. Find the experimental probability of spinning blue.
Write your answer as a percentage rounded to the nearest tenth, if necessary.

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Q15	Learning Outcome/Performance Criteria**	Lesson 8-2	Exercise	Page
MCQ	Find and compare experimental and theoretical probabilities	Using Statistical Experiments	1-5	383

2. A student flipped a coin 125 times and recorded the results.

Coin Result	Frequency
Heads	73
Tails	52

a. Find the theoretical probability of the coin landing on heads. Write your answer as a percentage rounded to the nearest tenth, if necessary.

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b. Find the experimental probability of the coin landing on heads. Write your answer as a percentage rounded to the nearest tenth, if necessary.

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Q15	Learning Outcome/Performance Criteria**	Lesson 8-2	Exercise	Page
MCQ	Find and compare experimental and theoretical probabilities	Using Statistical Experiments	1-5	383

3. A fair 6-sided die is rolled 150 times.

- a. Find the theoretical probability of rolling a 3. Write your answer as a percentage rounded to the nearest tenth, if necessary.
- b. Find the experimental probability of rolling a 3. Write your answer as a percentage rounded to the nearest tenth, if necessary.

Number on Die	Frequency
1	32
2	18
3	27
4	16
5	33
6	24

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Q15	Learning Outcome/Performance Criteria**	Lesson 8-2	Exercise	Page
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4. INTERNET Tiana sells handmade earrings online. Last month she sold 60% of her inventory. Design and run a simulation that can be used to estimate the probability of selling inventory.

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Q15	Learning Outcome/Performance Criteria**	Lesson 8-2	Exercise	Page
MCQ	Find and compare experimental and theoretical probabilities	Using Statistical Experiments	1-5	383

5. PROGRAMMING Lamar designed a soccer computer game. He coded the program such that a player will make a goal on 35% of the attempts. Paola is testing the game and thinks there may be an error in the game's programming. She attempted to make 30 goals and only 4 were successful. Run and evaluate a simulation, and decide whether Paola is correct.

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Q16	Learning Outcome/Performance Criteria**	Lesson 8-3	Exercise	Page
FRQ	Describe a data distribution by its center, spread, and overall shape	Analyzing Population Data	1-6	391

1. **BARBER** A barber wants to purchase new professional shears from a Web site. The prices of all of the shears are shown in the table. Use the standard deviation formula to find and interpret the standard deviation of the data. Round your answers to the nearest cent.

Cost of Shears (\$)			
50	165	55	79
84	68	38	42

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Q16	Learning Outcome/Performance Criteria**	Lesson 8-3	Exercise	Page
FRQ	Describe a data distribution by its center, spread, and overall shape	Analyzing Population Data	1-6	391

2. READING Ms. Sanchez keeps track of the total number of books each student in the book club reads during the school year. Use the standard deviation formula to find and interpret the standard deviation of the data. Round your answers to the nearest tenth.

Books Read		
9	6	12
8	9	14
10	13	8

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Q16	Learning Outcome/Performance Criteria**	Lesson 8-3	Exercise	Page
FRQ	Describe a data distribution by its center, spread, and overall shape	Analyzing Population Data	1-6	391

Use a graphing calculator to find the mean and standard deviation of each set of data. Round to the nearest tenth.

3. 20, 23, 24, 23, 22, 25, 21,
23, 24, 22, 21, 23, 22, 24

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4. 150, 153, 125, 136, 143, 150, 166, 148,
150, 173, 150, 153, 143, 142, 153

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Q16	Learning Outcome/Performance Criteria**	Lesson 8-3	Exercise	Page
FRQ	Describe a data distribution by its center, spread, and overall shape	Analyzing Population Data	1-6	391

Use a graphing calculator to find the mean and standard deviation of each set of data. Round to the nearest tenth.

5. 9.0, 3.8, 6.2, 7.1, 5.3, 6.2,
7.1, 8.2, 7.1, 4.5, 9.9, 8.2

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6. 3350, 2800, 4525, 2150, 2800, 2150,
3350, 1800, 5250, 3975, 580, 2800

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Q 4+17	Learning Outcome/Performance Criteria**	Lesson 8-4	Exercise	Page
FRQ MCQ	Find the area under normal distribution curves Find probabilities for normal distributions and find data values given probabilities	Normal Distributions	4-13 & 10	401&414

Identify the random variable in each distribution, and classify it as *discrete* or *continuous*. Explain your reasoning.

1. the number of texts received per week

2. the number of "likes" for a Web page

3. the height of a plant after a specific amount of time

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Q 4+17	Learning Outcome/Performance Criteria**	Lesson 8-4	Exercise	Page
FRQ MCQ	Find the area under normal distribution curves Find probabilities for normal distributions and find data values given probabilities	Normal Distributions	4-13 & 10	401&414

4. FUNDRAISING At a fundraising dinner, the underside of 200 plates were randomly tagged with a sticker to indicate winning a cash prize. The frequency table shows the number of winning plates for each prize. Construct a relative frequency table, and graph the probability distribution.

Prize, (X)	Frequency
\$5	150
\$50	40
\$100	9
\$1000	1

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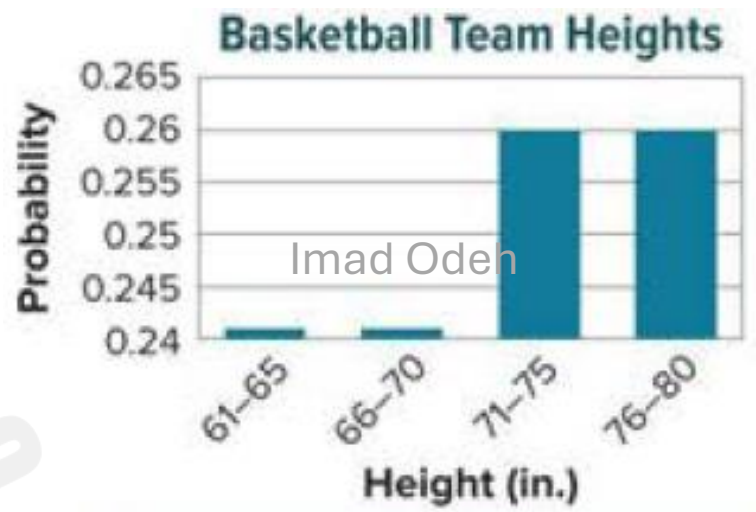
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Q 4+17	Learning Outcome/Performance Criteria**	Lesson 8-4	Exercise	Page
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5. **BASKETBALL** An athletic director made a probability distribution of the heights of her team's basketball players, and distributed a flyer that claimed that the majority of the players on the basketball team are 71 inches or taller. Identify any flaws in the representation of the probability distribution.



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Q 4+17	Learning Outcome/Performance Criteria**	Lesson 8-4	Exercise	Page
FRQ MCQ	Find the area under normal distribution curves Find probabilities for normal distributions and find data values given probabilities	Normal Distributions	4-13 & 10	401&414

6. **TRACK** The preliminary times for a 110-meter hurdles race are shown. Create a histogram of the set of data. Determine whether the data can be approximated with a normal distribution.

Times (seconds)
14.75, 14.77, 14.31, 14.83, 14.84, 14.35, 14.69, 14.63, 14.74, 14.82, 14.25, 14.93

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Q 4+17	Learning Outcome/Performance Criteria**	Lesson 8-4	Exercise	Page
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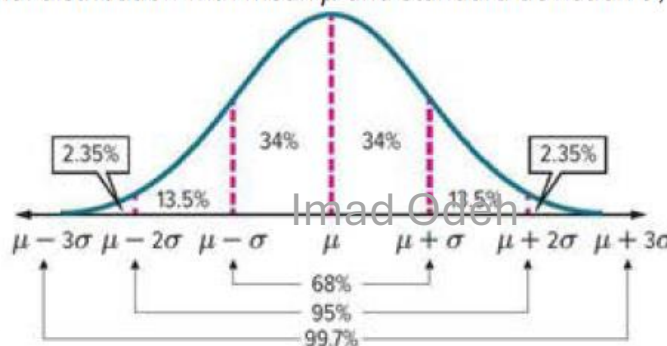
Example 5

7. A normal distribution has a mean of 186.4 and a standard deviation of 48.9.

- a. What range of values represents the middle 99.7% of the data?
- b. What percent of data will be greater than 235.3?
- c. What range of values represents the upper 2.5% of the data?

Key Concept • The Empirical Rule

In a normal distribution with mean μ and standard deviation σ ,



- approximately 68% of the data fall within 1σ of the mean,
- approximately 95% of the data fall within 2σ of the mean, and
- approximately 99.7% of the data fall within 3σ of the mean.

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Q 4+17	Learning Outcome/Performance Criteria**	Lesson 8-4	Exercise	Page
FRQ MCQ	Find the area under normal distribution curves Find probabilities for normal distributions and find data values given probabilities	Normal Distributions	4-13 & 10	401&414

Find the z-value for each standard normal distribution.

8. $\sigma = 9.8$, $X = 55.4$, and $\mu = 68.34$

9. $\sigma = 11.6$, $X = 42.80$, and $\mu = 68.2$

10. $\sigma = 11.9$, $X = 119.2$, and $\mu = 112.4$

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Q 4+17	Learning Outcome/Performance Criteria**	Lesson 8-4	Exercise	Page
FRQ MCQ	Find the area under normal distribution curves Find probabilities for normal distributions and find data values given probabilities	Normal Distributions	4-13 & 10	401&414

Use a table to find the area under the normal curve for each interval.

11. $z > 0.58$

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Use a table to find the area under the normal curve for each interval.

12. $z < -1.56$

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Q 4+17	Learning Outcome/Performance Criteria**	Lesson 8-4	Exercise	Page
FRQ MCQ	Find the area under normal distribution curves Find probabilities for normal distributions and find data values given probabilities	Normal Distributions	4-13 & 10	401&414

Use a table to find the area under the normal curve for each interval.

13. $-2.29 < z < 2.76$

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Q 4+17	Learning Outcome/Performance Criteria**	Lesson 8-4	Exercise	Page
FRQ MCQ	Find the area under normal distribution curves Find probabilities for normal distributions and find data values given probabilities	Normal Distributions	4-13 & 10	401&414

10. OPEN RESPONSE A normal distribution has a mean of 347.2 and a standard deviation of 13.9. (Lesson 8-4)

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Part A What percent of the data is less than 319.4?

Part B What percent of the data is greater than 361.1?

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Don't give up, it's a long journey to achieve your goals, and you will face many barriers and obstacles, some of which can be easily overcome, and others are very difficult to overcome, some of which will bring you down and cost you a lot, and some of which will set you back, but in the end, you will reach your destination and achieve more than you expect.

تمنياتي بالتوفيق للجميع
Best wishes

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