

أوراق عمل الدرس الثامن Tables Frequency Way-Two من الوحدة السابعة



تم تحميل هذا الملف من موقع المناهج الإماراتية

موقع المناهج ← المناهج الإماراتية ← الصف العاشر العام ← رياضيات ← الفصل الثالث ← ملفات متنوعة ← الملف

تاريخ إضافة الملف على موقع المناهج: 09:50:13 2025-04-21

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: Abdelaziz Moustafa

التواصل الاجتماعي بحسب الصف العاشر العام



صفحة المناهج
الإماراتية على
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

المزيد من الملفات بحسب الصف العاشر العام والمادة رياضيات في الفصل الثالث

أوراق عمل الدرس السابع Probability Conditional من الوحدة السابعة	1
أوراق عمل الدرس السادس Rule Addition the and Probability من الوحدة السابعة	2
أوراق عمل الدرس الخامس Rule Multiplication the and Probability من الوحدة السابعة	3
أوراق عمل الدرس الرابع Combinations and Permutations with Probability من الوحدة السابعة	4
أوراق عمل الدرس الثاني Counting and Probability من الوحدة السابعة	5

Objective:

To construct and interpret two-way frequency tables and use them to determine whether events are independent.

Vocabulary

two-way frequency table- marginal frequencies- joint frequencies -relative frequency

A two-way frequency table, or contingency table, is used to show the frequencies of data from a survey or experiment classified according to two variables, with the rows indicating one variable and the columns indicating the other.

يتم استخدام جدول تكراري ثنائي الاتجاه، أو جدول الامكانية، لإظهار تكرارات البيانات من المسح أو التجربة المصنفة وفقاً لذلك إلى متغيرين، حيث تشير الصفوف إلى متغير واحد والأعمدة تشير إلى المتغير الآخر.

- The two-way frequency table shows the results of a survey of 220 men and women about the time of day that they Men shower.

Two-way frequency table.

	Shower in the morning	Shower in the evening	Totals
Women	98	37	135
Men	23	62	85
Totals	121	99	220

- The frequencies reported in the Totals row and Totals column are called **marginal frequencies**.
- The frequencies reported in the interior of the table are called **joint frequencies**

A **relative frequency** is the ratio of the number in a category to the total number of observations

Two-way frequency table.

	Shower in the morning	Shower in the evening	Totals
Women	$98/220$	$37/220$	$135/220$
Men	$23/220$	$62/220$	$85/220$
Totals	$121/220$	$99/220$	$220/220$

① Francesca asks a random sample of 140 upperclassmen at her high school whether they prefer eating breakfast at home or at school. She finds that 55 juniors and 23 seniors prefer eating breakfast at home before school, while 12 juniors and 50 seniors prefer eating breakfast at school.

A) Organize the responses in a two-way frequency table.

B) Construct a relative frequency table.

What are the ways that you can show that two events A and B are independent?

$$P(A/B) = P(A).$$

or

$$P(A \cap B) = P(A) \cdot P(B)$$

② The manager of a produce wants to find out whether there is a connection between people who buy fresh vegetables and people who buy fresh fruit. The manager collects data on 200 randomly chosen shoppers, as shown in the two- way frequency table. Determine whether buying fresh vegetables and buying fresh fruit are independent events.

	Bought vegetables	Not vegetables	Total
Bought Fruit	56	20	76
Not Fruit	49	75	124
Total	105	95	200

Bought Vegetables: V

Bought Fruit: F

$$P(V) = \frac{105}{200} = \frac{21}{40}$$

$$P(F) = \frac{76}{200} = \frac{19}{50}$$

$$P(V) P(F) = \frac{21}{40} \cdot \frac{19}{50} = \frac{399}{2000}$$

$$P(V \cap F) = \frac{56}{200} = \frac{7}{25}$$

$P(V \cap F) \neq P(V) P(F).$ \Rightarrow Two events are not independent

③ **SCHOOL** Immediately after a physics test, the entire class sits together at lunch and discusses how long each of them studied and how many questions they guessed on. The table shows the responses from the classmates.

	Guessed on < 5 problems	Guessed on > 5 problems	Totals
Studied 4 Hours or less	9	3	12
Studied more than 4 hours	12	4	16
Totals	21	7	28

True or False: For these classmates, guessing on more than 5 problems on the physics test is independent of studying 4 hours or less.

Conditional Probability with Two-Way Frequency Tables

④ Abu posts a question to an online forum about the originality of posts to the site. Of the 55 respondents who have posted viral memes, 27 photos and 15 videos were not original content, while 3 photos and 10 videos were original content.

A) Construct a relative frequency table of the data. Round each percent to the nearest tenth.

B) Find the probability that a viral meme on the forum is not original content given that is it a photo.

5 A movie theatre is keeping track of the last 800 tickets it sold to two different movies. Of the 578 adult tickets sold, 136 of them were for the animated film and 442 were for the documentary film. Of the 222 student tickets sold, 181 of them were for the animated film and 41 were for the documentary film.

A) Copy and complete the two-way frequency table shown.

	Adult	Student	Totals
Animated		181	
Documentary			
Totals	578		800

b) Construct a relative frequency table of your completed two-way frequency table. Round each percent to the nearest tenth, as necessary.

c. Find the probability that a ticket sold is an adult ticket given that it is a documentary ticket. Show your work by writing the formula that you used to perform the calculation.