Check

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.

Step1: make two frequency table: divide all the numbers by the total (28)

	Guessed on < 5 problems	Guessed on > 5 problems	Totals
Studied 4 hours or less	_____=	_____=	_____=
Studied more that 4 hours	_____=	_____=	_____=
total	_____=	_____=	_____=

Step2: calculate the expected joint relative frequencies:

	Guessed on < 5 problems	Guessed on > 5 problems	Totals
Studied 4 hours or less	(0.75)x(0.4286) =	(0.25)x( ) =	0.4286
Studied more that 4 hours	(0.75)x( ) =	( )x( ) =	0.5714
Total	0.75	0.25	1

Step3: do the expected joint relative frequencies in step 2 match the table in step 1 ?

So are they independent?