22.2-22.3 classwork Name_____

A student wants to know if right-handed people are more or less likely to play a musical instrument than left-handed people. The student collect data from 250 people. Determine whether being right-handed and playing a musical instrument are independent events.

	Right-Handed	Left-Handed	Total
Plays a Musical Instrument	44	6	50
Does not Play a Musical Instrument	176	24	200
Total	220	30	250

Method 1: Determine if P(right-handed) x P(plays an instrument) = P(right-handed ∩ plays an instrument)
If true, the events are independent.

Method 2: Determine if P(right-handed) = P(right-handed|plays an instrument) or
P(plays and instrument) = P(plays an instruement|right-handed) If true, the events are independent.

2. Town officials are considering a property tax increase to finance the building of a new school. The two-way frequency tables shows the results of a survey of 110 town residents. Are the events independent or dependent?

	Supports a property tax increase	Does not support a property tax increase	Total
Lives in a household with children	50	20	70
Lives in a household without children	10	30	40
Total	60	50	110

Method 1:
Determine if P(lives with children) x P(supports tax increase) = P(lives with children ∩ supports tax increase)
If true, the events are independent.

Method 2: Determine if P(lives with children) = P(lives with children|supports tax increase) or
P(supports tax increase) = P(supports tax increase|lives with children If true, the events are independent.