Jerrod collected data on 100 randomly selected students, and summarized the results in a table.

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		Owns an MP3 player	
		Yes	No
Owns a Smart phone	Yes	28	12
	No	34	26

a. Make a table of joint relative frequencies and marginal relative frequencies.

entry ÷ total in sample space

total jrfs in rows + columns

		Owns an MP3 player		
		Yes	No	totals
Owns a Smart phone	Yes	.28	.12	.4
	No	.34	.26	.6
	totals	.62	.38	1

If you are given that a student owns an MP3 player, what is the probability that the student also owns a smart phone? Round your answer to the nearest hundredth.

$$P(SP \mid MP3) = \frac{P(SP \text{ and } MP3)}{P(MP3)} = \frac{.28}{.62} \approx .45$$

If you are given that a student owns a smart phone, what is the probability that the student also owns an MP3 player? Round your answer to the nearest hundredth.

$$P(MP3 \mid SP) = \frac{P(SP \text{ and } MP3)}{P(SP)} = \frac{.28}{.4} = .70$$