

## Determining Probability using Two-way Frequency Tables (Part 2)

**Use the two-way frequency table to evaluate. Write your answer as a percent rounded to the nearest tenth.**

	9 <sup>th</sup> Grade	10 <sup>th</sup> Grade	11 <sup>th</sup> Grade	12 <sup>th</sup> Grade	Total
0 Hero Points	0	0	0	0	0
1-10 Hero Points	15	32	12	4	63
11-20 Hero Points	0	18	4	1	23
21-30 Hero Points	3	3	2	1	9
31-40 Hero Points	3	7	0	0	10
More than 40 Hero Points	52	3	0	0	55
Total	73	63	18	6	160

1. What is the probability that a student selected at random will be in 12 <sup>th</sup> grade?	2. What is the probability that a student selected at random will be a 10 <sup>th</sup> grader that has 1-10 Hero Points?	3. What is the probability that a student selected at random will have 1-10 Hero Points, given that he or she is in 11 <sup>th</sup> grade?
4. What is the probability that a student selected at random will be in 12 <sup>th</sup> grade, given that he or she has 21-30 Hero Points?	5. What is the probability that a student selected at random will have 11-20 Hero Points?	6. What is the probability that a student selected at random will be a 9 <sup>th</sup> grader and will have more than 40 Hero Points?
7. What is the probability that a student selected at random will have 31-40 Hero Points?	8. What is the probability that a student selected at random will have more than 40 Hero Points, given that he or she is in 9 <sup>th</sup> grade?	9. What is the probability that a student selected at random will be in 10 <sup>th</sup> grade, given that he or she has 21-30 Hero Points?

Use the two-way frequency table to evaluate. Write your answer as a percent rounded to the nearest tenth.

	Eats fast food 3+ times a week	Eats fast food once a week	Rarely eats fast food	Never eats fast food	Total
Exercises every day	4	10	11	12	37
Exercises 3+ times a week	21	2	25	17	65
Exercises once a week	20	29	9	12	70
Does not exercise	55	34	22	2	113
Total	100	75	67	43	285

10. What is the probability that a person selected at random exercises every day, given that he or she eats fast food once a week?	11. What is the probability that a person selected at random rarely eats fast food, given that he or she exercises once a week?	12. What is the probability that a person selected at random does not exercise?
13. What is the probability that a person selected at random eats fast food once a week?	14. What is the probability that a person selected at random does not exercise, given that he or she eats fast food 3+ times a week?	15. What is the probability that a person selected at random eats fast food 3+ times a week, given that he or she does not exercise?
16. What is the probability that a person selected at random rarely eats fast food?	17. What is the probability that a person selected at random eats fast food 3+ times a week?	18. What is the probability that a person selected at random never eats fast food, given that he or she exercises every day?

Determining Probability using Two-way Frequency Tables (Part 2) Answers

1. $\frac{6}{160} = 3.8\%$	2. $\frac{32}{160} = 20\%$	3. $\frac{12}{18} = 66.7\%$	4. $\frac{1}{9} = 11.1\%$	5. $\frac{23}{160} = 14.4\%$	6. $\frac{52}{160} = 32.5\%$
7. $\frac{10}{160} = 6.3\%$	8. $\frac{52}{73} = 71.2\%$	9. $\frac{3}{9} = 33.3\%$	10. $\frac{10}{75} = 13.3\%$	11. $\frac{9}{70} = 12.9\%$	12. $\frac{113}{285} = 39.6\%$
13. $\frac{75}{285} = 26.3\%$	14. $\frac{55}{100} = 55.0\%$	15. $\frac{55}{113} = 48.7\%$	16. $\frac{67}{285} = 23.5\%$	17. $\frac{100}{285} = 35.1\%$	18. $\frac{12}{37} = 32.4\%$