Conditional Probability – STEM Education

# Quality of Education for STEM Careers

<https://www.pewsocialtrends.org/2018/01/09/women-and-men-in-stem-often-at-odds-over-workplace-equity/>

The following two tables compare the beliefs of Americans regarding the quality of Education of STEM Education at various levels in 2018.

US Adults who rate the US when it comes to STEM Education at each level

|  | **Above Average** | **Average** | **Below Average** | **Total** |
| --- | --- | --- | --- | --- |
| **K12 Public Schools** | 25 | 44 | 31 | 100 |
| **Undergraduate** | 35 | 47 | 18 | 100 |
| **Graduate** | 38 | 44 | 18 | 100 |
| Total | 98 | 91 | 67 | 300 |

1. Which level is more likely to be considered above average?

$$p(above average\left|K12), \right. p(above average\left|Undergraduate), \right. p(above average\left|Graduate) \right.$$

1. Which level is more likely to be considered average?

 $p(average\left|K12), \right. p(average\left|Undergraduate), \right. p(average\left|Graduate) \right.$

1. Which level is more likely to be considered below average?

 $p(below average\left|K12), \right. p(below average\left|Undergraduate), \right. p(below average)$

US STEM Degree holders who rate the US when it comes to STEM Education at each Level

|  | **Above Average** | **Average** | **Below Average** | **Total** |
| --- | --- | --- | --- | --- |
| **K12 Public Schools** | 13 | 36 | 51 | 100 |
| **Undergraduate** | 52 | 35 | 13 | 100 |
| **Graduate** | 62 | 29 | 9 | 100 |
| Total | 127 | 100 | 73 | 300 |

1. Which level is more likely to be considered above average?

 Compute $p(above average\left|K12), \right. p(above average\left|Undergraduate), \right. p(above average\left|Graduate) \right.$and compare likelihood.

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1. Which level is more likely to be considered below average?

 Compute $p(below average\left|K12), \right. p(below average\left|Undergraduate), \right. p(below average\left|Graduate) \right.$and compare likelihood.