You are taking two courses during winter session, math and history, and your subjective assessment of your performance is

|  |  |
| --- | --- |
| ***Event*** | ***Probability*** |
| fail both courses | .05 |
| fail math (*irrespective* of whether or not you fail history as well) | .15 |
| fail history (*irrespective* of whether or not you fail math as well) | .08 |

Let's develop a joint-probability table to analyze this problem (the letters A – H represent probability values. For example, A is the probability of failing both math and history; B is the probability of failing math and passing history; while C is the sum of A and B, and represents the probability of failing math).

|  |  |  |  |
| --- | --- | --- | --- |
|  | fail history | pass history | **row sum** |
| fail math | A | B | **C** |
| pass math | D | E | **F** |
| **column sum** | **G** | **H** |  |

a)     (3 pts.) What does C + F equal?

b)     (3 pts.) What does A + B + D + E equal?

c)     (12 pts)  What is the probability of failing math only (that is, you fail math but pass history)?

d)    (12 pts)  What is the probability of passing either course?