James Dumitru

IIT PSYC 203 LAB

Project 4

For the red disc, z = (45-33)/8 = 1.5

For the blue disc, z = (45-45)/2 = 0

He should go for the red disk because it has a smaller chance of spinning faster than 45 rpm than the blue disk.



For the left tunnel, z = (4-5)/1.25 = -0.80 ---.21186 ---21.19% chance

For the Right tunnel, z = (4-6)/1.75 = -1.14 ---.12714---12.71% chance

There is a higher chance that the left tunnel is 4m long or less than the right one.

He should choose the left



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Vanishes | Remains | Total |
| Stone | Skull | 11 | 24 | 35 |
|  | Heart | 15 | 26 | 41 |
|  | Total | 26 | 50 | 76 |

P(vanished|skull) = (vanished skulls)/(skulls) = 11/35=0.31

P(Vanished | heart) = (vanished hearts)/(hearts) = 15/41 = 0.37

--

--

P(A|B) = (P(B|A)P(A)) / P(B)

P(skull) = (skull)/(all stones) = 35/76 = 0.46

P(vanished) = (vanished)/(all stones) = 26/76 = 0.34

--

--

P(skull | vanished) = (vanished skull/vanish) = 11/ 26 = 0.42

P(vanished|skull) = (skull|vanished)(vanished) / (skull) =

(0.42\*0.34) / (0.46) =

0.14 / 0.46 = 0.31 (probability skull will vanish)

P(heart) = heart/all stones = 41/76 = 0.54

P(vanished) = vanished / all stones = 26 / 76 = 0.34

P(heart | vanished) = vanished hearts / vanish = 15/26 = 0.58

P(vanished|heart) = (heart|vanished)(vanished) / (heart) =

(0.58\*0.34) / (0.54) =

0.20 / 0.54 = 0.37 (probability heart will vanish)

Basically, since both have at least a 30% chance of vanishing, they are both bad to jump on, but the skulls have a less chance of vanishing than the hearts so he should still choose to jump on the skulls.



Zach's creativity raw score is 30, and the z was 1.36. If you check the appendix where the standard normal distribution is, it would show the smaller proportion value for our z of 1.36 which is 0.08691 which would be about 8.69% that someone in general has the same or more in creativity.



Zach's IQ raw score is 125, and the z was – 0.28, going back to the appendix, since the z is negative, the larger proportion column for the z which was – 0.28. The percent would be 0.61026 about 61%. Meaning, there is a 61% chance that worker is as smart at him with that IQ or more.