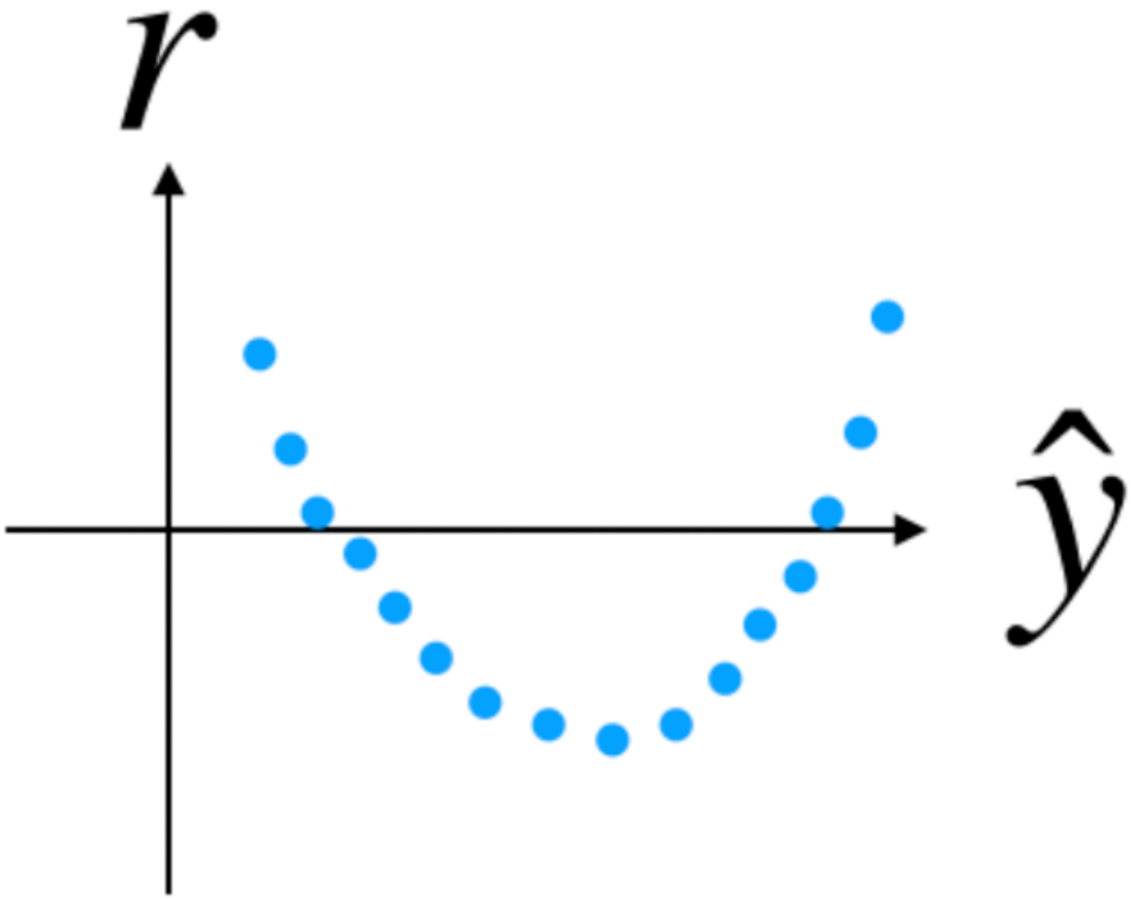
✓ If $A \subset B$, $P(A) = 0.25$, and $P(B) = 0.4$, find $P(A \mid B)$. * 1/1

- 0.25
- 0.4
- 0.1
- 0.625 ✓

✓ If X is a random variable that can obtain one of two values (Bernoulli random variable), then $P(X = 1) = p = 1 - P(X = 0) = 1 - q$. Which of the following propositions is true? *1/1

- E[X] = 1-p
- E[X] = p ✓
- E[X] = 0.5
- None of the above

✓ You have trained a linear regression model on a dataset (X, Y) and plotted the residuals r against the predicted values y^ . Here is the plot: *1/1



- ○ r and y^ are independent but linearly correlated
- ○ r and y^ are dependent and linearly correlated
- ◉ r and y^ are dependent but linearly uncorrelated ✓
- ○ r and y^ are independent and linearly uncorrelated

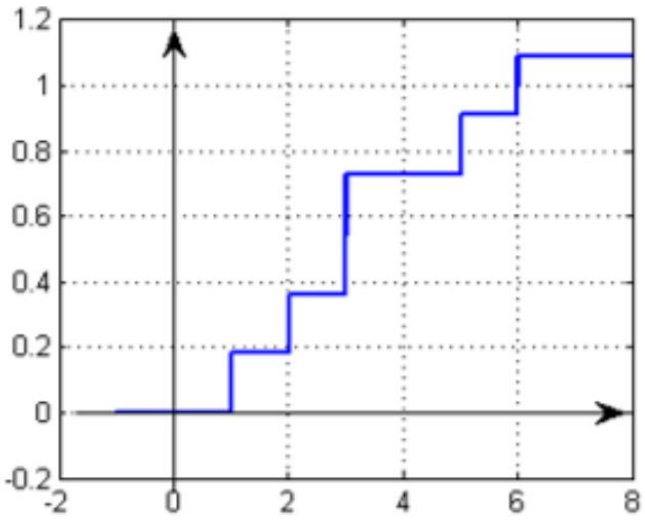
✗ Given x = cos φ and y = sin φ, where φ is an RV uniformly distributed between (0, 2π). Are x and y correlated? *0/1

- ◉ Yes ✗
- ○ No

✓ Given x = cos φ and y = sin φ, where φ is an RV uniformly distributed between (0, 2π). Are x and y independent? *1/1

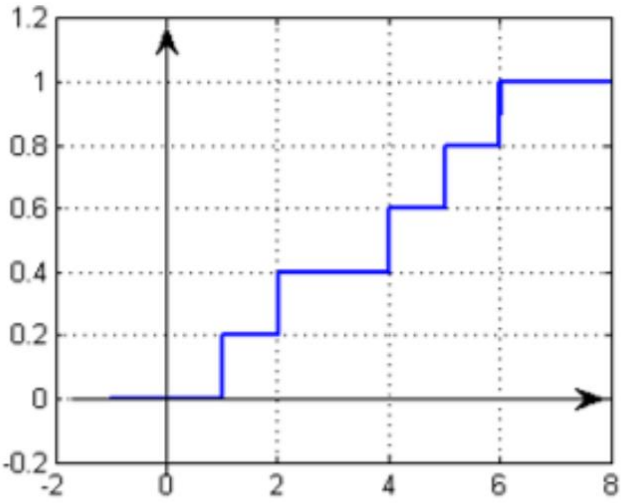
- ○ Yes
- ◉ No ✓

✓ Does this figure resemble a valid CDF 1/1



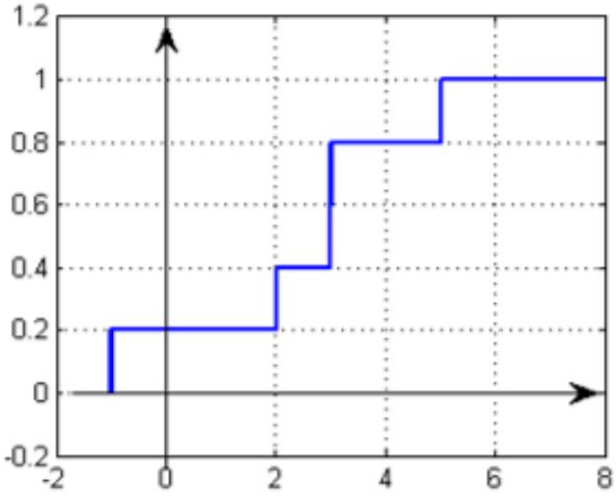
- ○ Yes
- ◉ No ✓

✓ Does this figure resemble a valid CDF 1/1



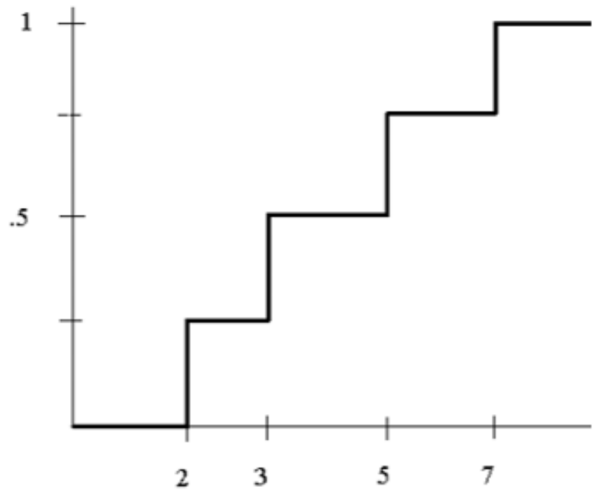
- (●) Yes ✓
- ( ) No

✓ Does this figure resemble a valid CDF 1/1



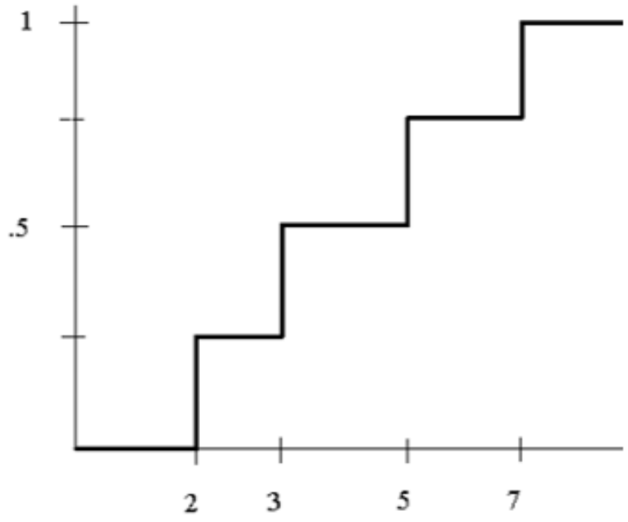
- (●) Yes ✓
- ( ) No

✓ Given the discrete CDF, F(X), shown; find the probability that X=5 * 1/1



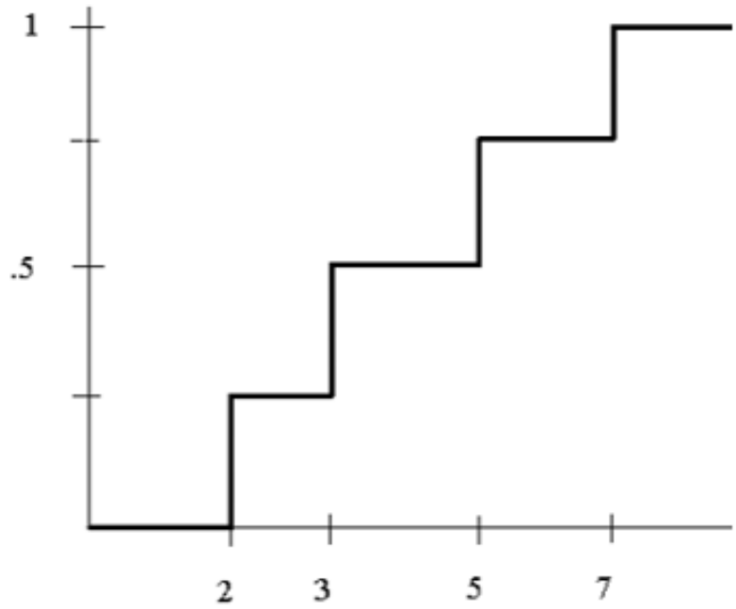
- ○ 0
- ◉ 0.25 ✓
- ○ 0.5
- ○ 0.75

✗ Given the discrete CDF, F(X), shown; find the probability that X=6 * 0/1



- ○ 0
- ◉ 0.25 ✗
- ○ 0.5
- ○ 0.75

✓ Given the discrete CDF, F(X), shown; find the probability that X<7 * 1/1



- ○ 0
- ○ 0.25
- ○ 0.5
- ◉ 0.75 ✓

✓ If X is an RV with Gaussian distribution with mean m = 1 and standard deviation σ = 2, find the probability that $X < 1$. *1/1

- ○ 0
- ◉ 0.5 ✓
- ○ 0.68
- ○ 0.95

✓ If X is an RV with Gaussian distribution with mean m = 1 and standard deviation σ = 1, find the probability that $X = 1$. *1/1

- (●) 0 ✓
- ( ) 0.5
- ( ) 0.68
- ( ) 0.95

✓ If X is an RV with Gaussian distribution with mean m = 2 and standard deviation σ = 2, find the probability that $0 < X < 4$ *1/1

- ( ) 0
- ( ) 0.5
- (●) 0.68 ✓
- ( ) 0.95