Cloud 9

F.A. Cup Draw

Study the Cup Draw Tutorial and attempt the tutorial exercise.

1(a)(i) Suppose that 8 of the 16 teams in the 5th round draw of the F.A. Cup ("Round of 16") are Premier League teams.

What is the probability that all the 8 Premier League teams avoid each other in the draw?

(ii) Suppose that 16 of the 32 teams in the 4th round draw of the F.A. Cup ("Round of 32") are Premier League teams.

What is the probability that all the 16 Premier League teams avoid each other in the draw?

(b) In the third round draw, 20 of the 64 teams are Premier League teams.

Produce the probability distribution for the number of all-Premier League matches which could result from the draw.

Notes Use P(0) to represent the probability of no all-Premier League matches, etc.

Express the probabilities using fractions.

Probability of the number of all-Premier League matches	Probability as a fraction	Probability of the number of all-Premier League matches	Probability as a fraction
P(0)		P(6)	
P(1)		P(7)	
P(2)		P(8)	
P(3)		P(9)	
P(4)		P(10)	
P(5)			