

Harder Probability Revision

Paper 1: Conditional Probability

Paper 2: Relative and Absolute Risk

RELATIVE RISK

ABSOLUTE RISK

GENERAL ADDITION RULE

MULTIPLICATION RULE FOR INDEPENDENCE

CONDITIONAL PROBABILITY

Furloughed employees in the UK in 2020

	Furloughed	Not furloughed	
Male	1 843 000	12 334 000	
Female	1 419 000	12 769 000	

Source: ONS

- (a) Calculate the probability that someone was furloughed from their employment in 2020
- (b) Given that the employee was female, calculate the probability that they were furloughed.
- (c) Given that the employee was furloughed, calculate the probability that they were male.
- (d) Is the probability of being furloughed independent of gender? Show your calculations for your conclusion.

3

The probability of having Covid is 10%.

The probability of testing positive for Covid if you have it is 80%

The probability of testing positive for Covid if you do not have it is 0.01%

Calculate:

(a) The probability that you have Covid and test positive

(b) The probability that you do not have Covid and test positive.

(c) The probability that if you test positive for Covid, then you have Covid.