Binomial Parameters

For each of the following Binomial Distributions, state the number of trials 'n', the probability of success 'p' and the probability of failure 'q'

$X \sim B(12, 0.45)$	n : _____	p : _____	q : _____
$X \sim B(20, 0.29)$	n : _____	p : _____	q : _____
$X \sim B(62, 0.17)$	n : _____	p : _____	q : _____
$X \sim B(28, 0.814)$	n : _____	p : _____	q : _____
$X \sim B(16, 0.02)$	n : _____	p : _____	q : _____

In a test, there are 20 questions, each with 5 possible answers.
State the distribution of the number of correct answers obtained by a pupil guessing all 20 questions

$X \sim B($ _____ , _____ $)$

Whilst crossing a bridge the probability that a bike will get a puncture is 0.07. During a given day, 120 bikes cross the bridge. State the distribution of the number of bikes who get a puncture

$X \sim B($ _____ , _____ $)$

On average, 12% of the items made on a production line are faulty. During an average shift 12,000 products are made. State the distribution of the number of faulty products

$X \sim B($ _____ , _____ $)$

A newspaper article suggests that 18% of people are left-handed.. A study was undertaken of 970 pupils. State the distribution of the number of left handed pupils

$X \sim B($ _____ , _____ $)$

A bag contains 8 red and 3 black counters. I take a counter, note its colour and return it, and repeat this until I have selected 5 counters. State the distribution of the number of black counters in the bag

$X \sim B($ _____ , _____ $)$

A cereal manufacturer claims that 65% of their boxes of cereal contain a free gift. To test this, a consumer group decides to take a random sample of 30 boxes. State the distribution of the number of free gifts in a box

$X \sim B($ _____ , _____ $)$

A door-to-door salesman expects to make one sale for every 50 houses called on. He calls at 50 doors one morning. State the distribution of the number of sales he expects to make

$X \sim B($ _____ , _____ $)$

In the manufacture of glass phials it is known that 8% will contain flaws. A random sample of 30 phials is chosen from a large batch. State the distribution of the number of glass phials that contain flaws

$X \sim B($ _____ , _____ $)$

When a gymnast performs a routine, the probability she does so flawlessly is 0.74. She performs her routine 7 times in a month. State the distribution of the number of ***flawed*** performances.

$X \sim B($ _____ , _____ $)$

The chance of a male customer walking into a shop is 40%. The shopkeeper notes down the gender of the next 100 customers to enter the shop. State the distribution of the number of ***female*** customers

$X \sim B($ _____ , _____ $)$