Starter

If Y ~ B(10, 0.3) calculate

a) P(Y = 3)

b) P(Y < 7)

c) P(Y ≥ 2)

Aug 22-15:04

Continue to Practice using the Binomial Distribution

1) Ex 2.3A - You have already completed question 1.

2) Ex 2.3B - Leave out questions 1 and 2.

Aug 22-15:04

Poisson Distribution

Today we are learning...

What the Poisson distribution is and how we use it.

I know if I have been successful if...

I understand what the Poisson Distribution is.

I understand the conditions that must be met to use it.
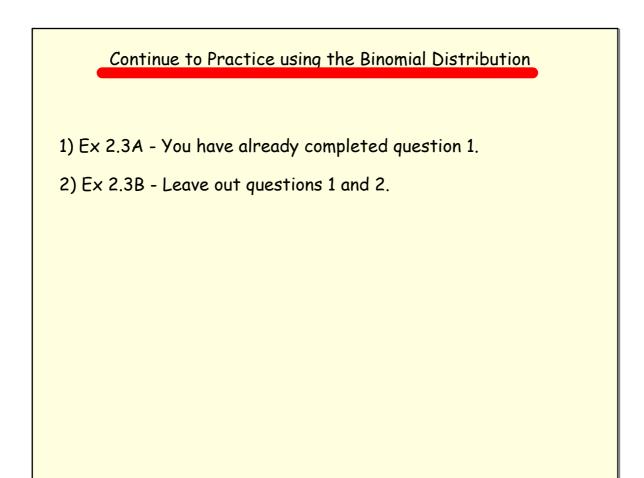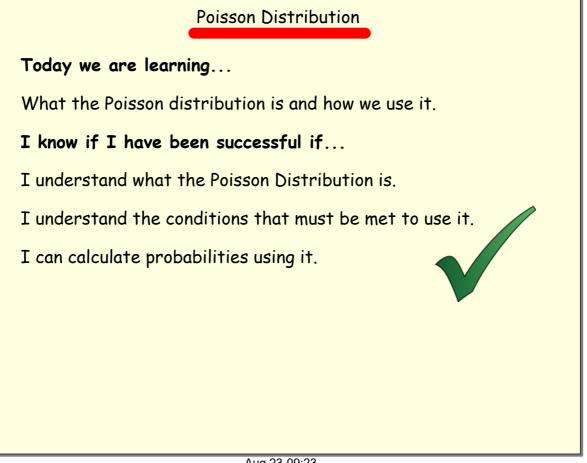
I can calculate probabilities using it.

Aug 23-09:23

Poisson Distribution

Like the Binomial distribution the Poisson distribution is a discrete probability distribution. We can use it under the following conditions:
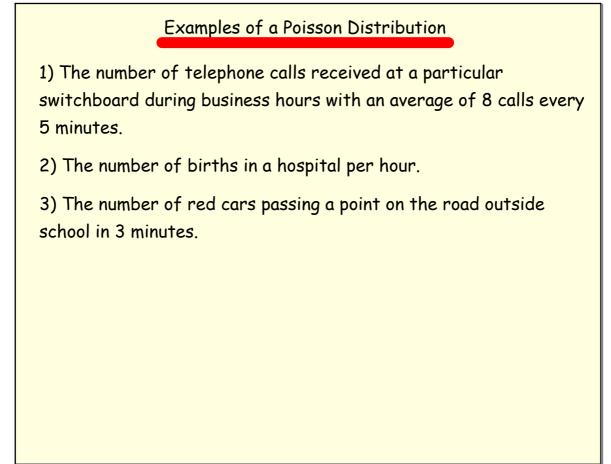
1) Isolated events are occurring in continuous time or space.

2) Events are independent.

3) Events occur singly rather than in groups.

4) Events are occurring at a constant average rate per unit of time through the period of interest.

5) The random variable X is the number of events occurring per time segment.

Aug 23-09:25

Examples of a Poisson Distribution

1) The number of telephone calls received at a particular switchboard during business hours with an average of 8 calls every 5 minutes.

2) The number of births in a hospital per hour.

3) The number of red cars passing a point on the road outside school in 3 minutes.

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Poisson Distribution

If the random variable X is said to follow a Poisson Distribution then we write $X \sim Po(\lambda)$

$$P(X = x) = \frac{e^{-\lambda} \lambda^x}{x!}$$

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The number of telephone calls received at a particular switchboard during business hours is thought to be a Poisson random variable with an average of 8 calls every 5 minutes.

$$X \sim Po\ (8)$$

$$P(X = x) = \frac{e^{-\lambda}\lambda^{x}}{x!}$$

Calculate...

P(X = 4)

P(X = 10)

P(X ≤ 13)

Aug 23-09:37

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