Торіс	What students need to learn:		
	Content		Guidance
3 Geometric and negative binomial distributions	3.1	Geometric and negative binomial distributions.	Models leading to the distributions $p(x) = p(1-p)^{x-1}, x = 1, 2 \dots$ and $p(x) = {x-1 \choose r-1} p^r (1-p)^{x-r}$ $x = r, r+1, r+2, \dots$
	3.2	Mean and variance of a geometric distribution with parameter <i>p</i> .	Use of $\mu = \frac{1}{p}$ and $\sigma^2 = \frac{1-p}{p^2}$
	3.3	Mean and variance of negative binomial distribution with $P(X=x) = {x-1 \choose r-1} p^r (1-p)^{(x-r)}$	Use of $\mu = \frac{r}{p}$ and $\sigma^2 = \frac{r(1-p)}{p^2}$