TG   5   It is known that 24% of HSC students do not have a driver licence. In a random sample of 16* HSC students, what is the probability that half of them will not have a driver licence?
* NESA has 15 … but cannot use 'half of 15' … projectmaths

$n = 16$

$P(\text{licence}) = p = 0.24$

$np = 16 \times 0.24$

$\quad = 3.6$

The distribution of sample proportions cannot be approximated using the normal distn as $np < 10$.

Using Binomial probability: $P(X = 8) = {}^{16}C_8\ (0.24)^8(0.76)^8$

$$= 0.0158 \text{ (4 dec pl)}$$