A sample of n=100 patients free of diabetes have their body mass index (BMI) measured. 32% of these patients have BMI ≥30 and meet the criteria for obesity. Generate a 95% confidence interval for the proportion of patients free of diabetes who are obese.

We can use the equation with a Z score of 1.96:

$$95\% confidence interval= \hat{p}\pm 1.96\sqrt{({\hat{p} (1-\hat{p})}/{n})}$$

$$95\% confidence interval=0.32\pm 1.96√{[0.32\left(1-0.32\right)]}/{100}$$

$$95\% confidence interval=0.32\pm 0.091=(0.229, 0.441)$$