3 July

Q. Colleges in town A has 85% Placement rate. A new College was recently opened & it was found that a sample of 150 students had a Placement rate of 88% with a std. dev. of 4%. does this college have a **different** Placement rate? with C.I. = 95%.
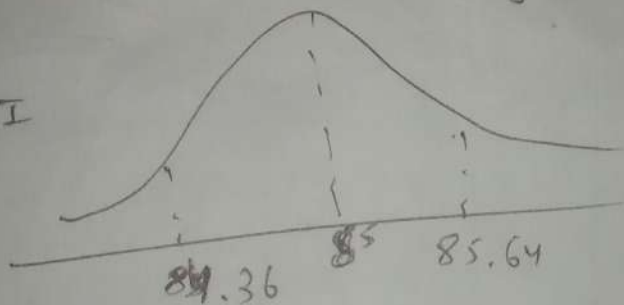
Sol.

$n \geq 30$ so we use Z-test $CI = 95\%$. $n = 150$

$\alpha = 1 - .95 = .05$, $\alpha/2 = .025$, $Z_{\alpha/2} = 1.96$, $s = 4$

Lower femle $= \bar{x} - Z_{\alpha/2} \dfrac{s}{\sqrt{n}} = 85 - 1.96 \times \dfrac{4}{\sqrt{150}} = 84.36$

Upper femle $= 85 + 1.96 \times \dfrac{4}{\sqrt{150}} = 85.64$

95% CI

84.36   85   85.64

88% does not fall in this range.

[Yes] this college have, a different Placement rate