# Analysis of ACT Score Distribution

To solve this problem, I need to find the proportion of students scoring 33 or higher on the ACT, given that scores are normally distributed with μ = 18 and σ = 6.

## Approach

I'll convert the raw score to a z-score and then determine the area in the upper tail of the distribution beyond this point.

## Calculation

The z-score for an ACT score of 33 is:

z = (x - μ)/σ = (33 - 18)/6 = 15/6 = 2.5

This means a score of 33 is 2.5 standard deviations above the mean.

For a normal distribution, I need to find P(X ≥ 33) = P(Z ≥ 2.5)

Using the standard normal table (or calculating directly):

P(Z ≥ 2.5) = 1 - P(Z < 2.5) = 1 - 0.9938 = 0.0062

This corresponds to approximately 0.62% of students scoring 33 or higher.

## Answer

Among the given options, the closest value is (A) 6.2 × 10⁻³ or 0.0062.

Therefore, the answer is (A).