Okay, let's tackle this problem with the rigor expected of a graduate statistics student. We are given that the ACT scores are approximately normally distributed with a mean (μ) of 18 and a standard deviation (σ) of 6. We want to find the proportion of students who scored 33 or higher. This requires us to calculate a probability.

Here's the step-by-step approach:

1. \*\*Standardization (Z-score Calculation):\*\* We first need to convert the ACT score of 33 into a standard normal score, also known as a Z-score. The Z-score tells us how many standard deviations a particular value is away from the mean. The formula for calculating a Z-score is:

Z = (X - μ) / σ

Where:

\* X = the value we're interested in (33)

\* μ = the mean (18)

\* σ = the standard deviation (6)

Plugging in the values:

Z = (33 - 18) / 6 = 15 / 6 = 2.5

2. \*\*Probability Calculation (Using Z-table or Software):\*\* Now we know that a score of 33 corresponds to a Z-score of 2.5. We want to find the proportion of scores \*at or above\* 33, which means we need to find the area to the \*right\* of Z = 2.5 under the standard normal curve.

We have two options for finding this probability:

\* \*\*Using a Z-table:\*\* Look up the Z-score of 2.5 in a standard normal distribution table. The table usually provides the cumulative probability (the area to the \*left\* of the Z-score). The value for Z = 2.5 is approximately 0.9938. Since we want the area to the \*right\*, we subtract this from 1: 1 - 0.9938 = 0.0062.

\* \*\*Using statistical software (R, Python, etc.):\*\* Most statistical software packages have functions to calculate the cumulative distribution function (CDF) and probability density function (PDF) of the normal distribution. In this instance we could calculate the probability directly. For this question we will use the answer key and the process outlined above.

3. \*\*Choose the correct answer:\*\*

Based on the process outlined above, we arrive at a probability of approximately 0.0062. Checking the options:

\* (A) 6.1999999999999998E-3 ≈ 0.0062. (Correct)

\* (B) 1.09E-2 ≈ 0.0109

\* (C) 1.24E-2 ≈ 0.0124

\* (D) 2.1700000000000001E-2 ≈ 0.0217

\*\*Answer:\*\* (A) 6.1999999999999998E-3

\*\*Final Answer: The final answer is $\boxed{(A)}$\*\*