Okay, let's tackle this question. Here's how I, as a graduate statistics student, would approach it:

\*\*1. Understand the Problem\*\*

We're dealing with a normally distributed variable (IQ scores) and need to find the proportion (or probability) of individuals with scores exceeding a specific value (130). This involves using our knowledge of the standard normal distribution and z-scores.

\*\*2. Calculate the Z-score\*\*

The z-score standardizes a value to tell us how many standard deviations it is away from the mean. The formula is:

`z = (x - μ) / σ`

Where:

\* `x` is the value we're interested in (130)

\* `μ` is the population mean (100)

\* `σ` is the population standard deviation (15)

Plugging in the values:

`z = (130 - 100) / 15 = 30 / 15 = 2`

So, an IQ of 130 is 2 standard deviations above the mean.

\*\*3. Find the Probability\*\*

We want the proportion of people \*above\* an IQ of 130, which corresponds to the area under the normal curve \*to the right\* of the z-score of 2. We can use a z-table or statistical software (e.g., R, Python with SciPy, a calculator with normal distribution functions) to find the area to the \*left\* of z=2, which represents P(Z < 2). Then, we can subtract this value from 1 to find the area to the right (P(Z > 2)).

\* Using a standard normal table (or a statistical calculator), the probability associated with a z-score of 2 is approximately 0.9772 (the area to the left of z = 2).

\* Therefore, the probability of a value being \*greater\* than z = 2 (i.e., an IQ above 130) is: 1 - 0.9772 = 0.0228

\*\*4. Evaluate the Options\*\*

Now, let's compare our answer to the provided options:

\* (A) 0.95 - Incorrect. This would be the probability of being within about 2 standard deviations from the mean (-2 < z < 2).

\* (B) 0.68 - Incorrect. This is approximately the proportion within one standard deviation of the mean.

\* (C) 0.05 - Incorrect. This is the approximate proportion outside about 2 standard deviations (0.025 above and 0.025 below).

\* (D) 2.5000000000000001E-2 - Correct. This is equivalent to 0.025, which is \*very close\* to our calculated 0.0228. Given the level of precision requested, it is likely the student should select this answer.

\*\*5. Conclusion\*\*

The proportion of people with IQs above 130 is approximately 0.0228, and as such option (D) is the correct answer. The slight difference between our calculation and the given answer is likely due to rounding in the normal table.

\*\*Final Answer: (D)\*\*

\*\*Important Considerations for the Exam:\*\*

\* \*\*Know your z-table!\*\* Memorize the structure and how to use it.

\* \*\*Double-check:\*\* Make sure you understand what the question is asking (above, below, between).

\* \*\*Precision:\*\* Be aware of the level of precision required in the answer. Sometimes, the exam will give you values rounded to a certain decimal place.

\* \*\*Time Management:\*\* Don't spend too much time on one question. Quickly calculate the z-score, look up the area, do the subtraction, and select the answer.