

Solutions

2.1 A A clearance dimension often needs to consider larger relevant body dimensions, while reach can require smaller relevant dimensions. Neither principle automatically selects a universal percentile. The measured population, posture, clothing, capability and task determine relevance. Consider physical, perceptual and cognitive demands together rather than assuming body size explains every usability issue.

2.2 $\text{rank} = \text{ceil}(0.90 \times 20) = 18$; rank is not the measurement value.

2.3 False. Percentile methods differ, especially for small samples. A percentile is not a percentage of a body dimension. An average dimension and a successful test by one user do not establish accessible design.

2.4 anthropometry. anthropometry means Measurement of human body dimensions for a specified population and method.

3.1 Ranks 1 and 4 give 40 and 46 cm. A lower reach accommodates more short-reach users; a 46 cm control exceeds three of five observed reaches. This small fictional sample is not a product standard.