

Standard Error of Estimate Problems

1. Assume that the relationship between PPVT scores and Stanford-Binet IQ scores, measured by the standard error of estimate ($s_{y.x}$), is 7 points. A child's PPVT score predicts an IQ of 95.
 - a. How confident are you that the child's actual IQ is between:
 - 88 and 102
 - 81 and 109
 - 74 and 116
 - b. Turn the phrasing around slightly. If a child's predicted IQ (based on the PPVT) is 95, what are the:
 - ~68% confidence limits for IQ (± 1 s.e.e)
 - ~95% confidence limits for IQ (± 2 s.e.e)
 - ~99% confidence limits for IQ (± 3 s.e.e)
2. Assume that the test-retest reliability for the Stanford-Binet IQ test, measured by the standard error of estimate ($s_{y.x}$), is 5 points. A subject scores 107 on the test.
 - a. How confident are you that the subject's actual IQ is between:
 - 102 and 112
 - 97 and 117
 - 92 and 122
 - b. Turn the phrasing around slightly. If a subject's measured IQ is 107, what are the:
 - ~68% confidence limits for IQ (± 1 s.e.e)
 - ~95% confidence limits for IQ (± 2 s.e.e)
 - ~99% confidence limits for IQ (± 3 s.e.e)

Answers to Standard Error of Estimate Problems

1a.

88 and 102: This is ± 1 s.e.e, which is about 68% (68.26)

81 and 109: This is ± 2 s.e.e, which is about 95% (95.44)

74 and 116: This is ± 3 s.e.e, which is over 99% (99.74)

1b.

~68%: 88-102

~95%: 81-109

~99%: 74-116

2a.

102-112: This is ± 1 s.e.e, which is about 68% (68.26)

97-117: This is ± 2 s.e.e, which is about 95% (95.44)

92-122: This is ± 3 s.e.e, which is over 99% (99.74)

3b.

~68%: 102-112

~95%: 97-117

~99%: 92-122