

# Standard Deviations, Standard Scores, T Scores, and Percentiles Crosswalk

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Tests by schools and professionals use various yardsticks to measure traits. The following measurements are frequently used. It is important to know what they mean.

## Standard Deviations (SD):

The general sense is that everything within one standard deviation of average is considered "within the normal range" or "within the average range." Notice that normal or average can range between the 16<sup>th</sup> percentile rank and the 84<sup>th</sup> percentile rank. Many people consider 1.5 SD's as a position of a high probability of either significantly below or above average performance. This is comparable to either the 7<sup>th</sup> or 93<sup>rd</sup> percentile rank.

When there is a deviation of 2 SD's from the normal (or from ability) then almost everyone agrees that this is a very significant problem. A deviation of 2 SD's places one at the 2<sup>nd</sup> or 98<sup>th</sup> percentile rank. When diagnosing for Attention Deficit Disorder, most professionals use 1.5 to 2 SD's from average regarding various traits (such as hyperactivity, impulsivity or inattention) before deciding a person has ADD/ADHD.

## Standard Scores(SS):

These are used most often to measure ability (IQ tests) and achievement. Thus, they are used to figure out if a person has some strong difference or discrepancy between ability and achievement. If it is severe enough, we consider that person to have a Learning Disability.

However, be careful with Standard Scores. *Do not confuse them with grades on tests*, where 100 is perfect, and 85 is a B. The chart below shows that 100 is average, or a 50<sup>th</sup> percentile rank. But an SS of 85 is a 16<sup>th</sup> percentile rank, meaning 84 out of 100 children are at or above this score, while 16 out of 100 children are at or below this score.

**Standard Scores have a mean of 100, and a Standard Deviation of 15.**

## T-Scores:

These are usually technical scores, not used too much for parents, but they still get used nonetheless.

**T-Scores have a mean of 50, and a Standard Deviation of 10.**

## CROSSWALK

<i>Standard Score</i>	<i>T Score</i>	<i>Standard Deviation</i>	<i>Percentile Rank</i>		<i>Standard Score</i>	<i>T Score</i>	<i>Standard Deviation</i>	<i>Percentile Rank</i>
55	20	-3.0	.13			51	+1	53.98
	21	-2.9	.19		103	52	+2	57.93
58	22	-2.8	.26			53	+3	61.79
	23	-2.7	.35		106	54	+4	66.54
61	24	-2.6	.47			55	+5	69.15
	25	-2.5	.62		109	56	+6	72.57
64	26	-2.4	.82			57	+7	75.80
	27	-2.3	1.07		112	58	+8	78.81
67	28	-2.2	1.39			59	+9	81.59
	29	-2.1	1.79		<b>115</b>	<b>60</b>	<b>+1</b>	<b>84.13</b>
<b>70</b>	<b>30</b>	<b>-2.0</b>	<b>2.28</b>			61	+1.1	86.43
	31	-1.9	2.87		118	62	+1.2	88.49
73	32	-1.8	3.59			63	+1.3	90.32
	33	-1.7	4.46		121	64	+1.4	91.92
76	34	-1.6	5.48			65	+1.5	93.32
	35	-1.5	6.68		124	66	+1.6	94.52
79	36	-1.4	8.08			67	+1.7	95.54
	37	-1.3	9.68		127	68	+1.8	96.41
82	38	-1.2	11.51			69	+1.9	97.13
	39	-1.1	13.57		<b>130</b>	<b>70</b>	<b>+2.0</b>	<b>97.72</b>
<b>85</b>	<b>40</b>	<b>-1.0</b>	<b>15.87</b>			71	+2.1	98.21
	41	-.9	18.41		133	72	+2.2	98.61
88	42	-.8	21.19			73	+2.3	98.93
	43	-.7	24.20		136	74	+2.4	99.18
91	44	-.6	27.43			75	+2.5	99.38
	45	-.5	30.58		139	76	+2.6	99.53
94	46	-.4	34.46			77	+2.7	99.65
	47	-.3	38.21		142	78	+2.8	99.74
97	48	-.2	42.07			79	+2.9	99.81
	49	-.1	46.02		<b>145</b>	<b>80</b>	<b>+3.0</b>	<b>99.87</b>
<b>100</b>	<b>50</b>	<b>-0</b>	<b>50.00</b>					