

Demographic Variables

Age	_____ years	Education	_____ years	Sex		Ethnicity	
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Trail Making Test: Raw to Z Score Conversion

Test	Subtest	Your Raw Score (X)	Normal Performance*		Your performance		
			M	SD	Z **	Percentile *** (%ile)	Description **** (WAIS-4)
Trail Making	Trails A	_____ seconds					
Trail Making	Trails B	_____ seconds					

Notes:

* See values in Table 2 - choose the combination of Age, Education and Gender that matches you.

** Calculate Z using the formula $Z = (X - M) / SD$

*** Estimate %ile from the Standard Scores Chart

**** Use the description from the WAIS-4 Terminology Table

COWAT: Controlled Oral Word Association Test: Raw to Standard Score Conversion

Test	Subtest	Your Raw Score (X)	Scaled Score*	T Score**	Percentile *** (%ile)	Description **** (WAIS-4)
COWAT	FAS (Letter)	_____ words				
COWAT	Animals (Category)	_____ words				

Notes:

* Convert your Raw score to Scaled score using Table 4

** Use the T-Score formula from Appendix B (see below)

*** Estimate %ile from the Standard Scores Chart

**** Use the description from the WAIS-4 Terminology Table

COWAT Appendix B: Normative Formulas for Letters (FAS) and Category (Animals)

Education = years of education completed

Age = Actual age in years (but if age is between 20 and 34 then code age as 34)

Race: Caucasian = 0, African American = 1

Letter (FAS) T Score:

$$T = 14.8 + (3.58 \times \text{ScaledScore}) - (0.914 \times \text{Education}) + (0.177 \times \text{Age}) + (5.47 \times \text{Race})$$

$$T = 14.8 + (3.58 \times \text{_____}) - (0.914 \times \text{_____}) + (0.177 \times \text{____}) + (5.47 \times \text{____})$$

$$T = 14.8 + (\text{_____}) - (\text{_____}) + (\text{_____}) + (\text{_____})$$

$$T = \text{_____}$$

Category (Animals) T Score:

$$T = 10.4 + (3.56 \times \text{ScaledScore}) - (1.05 \times \text{Education}) + (0.301 \times \text{Age}) + (8.48 \times \text{Race})$$

$$T = 10.4 + (3.56 \times \text{_____}) - (1.05 \times \text{_____}) + (0.301 \times \text{____}) + (8.48 \times \text{____})$$

$$T = 10.4 + (\text{_____}) - (\text{_____}) + (\text{_____}) + (\text{_____})$$

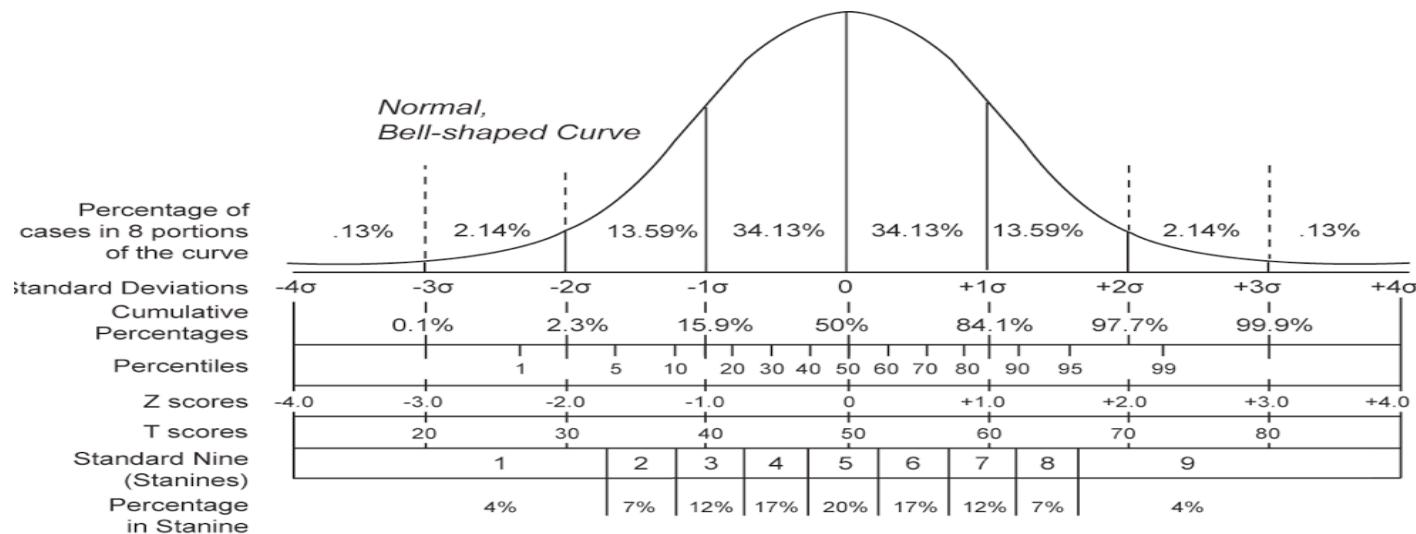
$$T = \text{_____}$$

Trails A,B Normative Data

Table 2
Statistical properties for age, education, gender, Trails A and B (s) for each normative group

Age groups	Statistics		
	Mean (S.D.)	Median	Minimum–maximum
Age group 18–24 (n = 155)			
Age	20.17 (1.48)	20.00	18–24
Education	12.92 (1.01)	13.00	10–15
Gender	1.59 (0.49)		
Trail A (s)	22.93 (6.87)	21.70	12–57
Trail B (s)	48.97 (12.69)	47.00	29–95
Age group 25–34 (n = 33)			
Age	29.42 (2.87)	30.00	25–34
Education	14.18 (1.61)	14.00	11–18
Gender	1.58 (0.50)		
Trail A (s)	24.40 (8.71)	23.00	10–45
Trail B (s)	50.68 (12.36)	50.00	29–78
Age group 35–44 (n = 39)			
Age	39.74 (2.94)	41.00	35–44
Education	13.59 (2.06)	14.00	10–20
Gender	1.59 (0.50)		
Trail A (s)	28.54 (10.09)	26.00	12–50
Trail B (s)	58.46 (16.41)	58.00	29–95

Standard Scores



WAIS-4 Terminology

Classification	IQ Score	Z Score	T-Score	Percentile (%ile)
Very superior	>= 130	>= 2.0	>= 70	>= 98%
Superior	120-129	1.3 to 2.0	63-39	91% - 97%
High average	110-119	0.6 to 1.3	56-62	75% - 90%
Average	90-109	-0.6 to +0.6	44-55	25% - 74%
Low average	80-89	-0.6 to -1.3	43-37	9% - 24%
Borderline	70-79	-1.3 to -2.0	36-30	3% - 8%
Extremely low	<= 69	<= -2.0	<= 29	<= 2%