

### Descriptive Statistics Practice Data Sets

#### 30 Item "Information" (general knowledge) test scores of 100 6-year-olds

Frequency of the Score in the Sample	Raw Score	$fX$	
1	0		Mode = _____
1	1		Median = _____
6	2		Mean = _____
8	3		SD = <u>1.8184</u>
18	4		$\text{Mean for grouped data} = \frac{\sum fX}{n}$ <div style="background-color: #e0e0e0; padding: 5px; margin-top: 10px;"> <math>f</math> = frequency of score  <math>x</math> = raw score  <math>n</math> = total number of scores                 </div>
29	5		
20	6		
8	7		
6	8		
1	9		
1	10		
1	11		
0	12-30		
	$\sum fX$		

#### 100 Item "Arithmetic" (math fact) test scores of 20 6-year-olds

Subject	Raw Score	$X^2$	
1	64		Mean = _____
2	48		Mean = $\sum X/N$
3	55		SD = _____
4	68		$\text{SD} = \sqrt{\frac{\sum X^2 - \frac{(\sum X)^2}{N}}{N - 1}}$ <div style="background-color: #e0e0e0; padding: 5px; margin-top: 10px;"> <math>\sum X^2</math> = sum of squared scores  <math>(\sum X)^2</math> = square of the sum of scores  <math>n</math> = total number of scores                 </div>
5	72		
6	59		
7	57		
8	61		
9	63		
10	60		
11	60		
12	43		
13	67		
14	70		
15	65		
16	55		
17	56		
18	64		
19	61		
20	60		
	$\sum X =$	$\sum X^2 =$	
	$(\sum X)^2 =$	$(\sum X)^2/N =$	
mean	$\sum X/N =$		

A school psychologist wishes to estimate a 6-year-olds general fund of knowledge and math calculation skills. Thus, she administers the arithmetic and Information tests that have recently been developed (and “standardized” on a sample of 6-year-olds). Results are as follows:

Arithmetic Test Raw Score of 67  
Information Test Raw Score of 3

What do these scores suggest about the student being tested? Which raw score suggest better skill development (when compared to other 6-year-olds)? To answer these questions we need to know how far the obtained Raw Scores are from the standardization samples mean (or how they compare to the average score of children who have already taken the tests and two whom we want to compare the student we have just tested)

$$Z \text{ Score} = \frac{X - \text{Mean}}{sd}$$

Mean = Average score of the comparison group  
 X = Test raw score  
 sd = Standard deviation of the comparison group scores

Arithmetic Test Z Score =

Information Test Z score =

From this standard score transformation what do the obtained results suggest about this student?

---

---

---

---

---

---

---

---

What if...

Arithmetic Test Raw Score of 57  
Information Test Raw Score of 10

What do these scores suggest about the student being tested?

Arithmetic Test Z Score =  
Arithmetic Test Scaled Score =

Information Test Z score =  
Information Test Scaled Score =

From this standard score transformation what do the obtained results suggest about this student?

---

---

---

---

---

---

---

---