(1) x_i	(3) $\bar{x}$	(4) $x_i - \bar{x}$	(6) $(x_i - \bar{x})^2$
11	48	-37	1369
31	48	-17	289
36	48	-12	144
41	48	-7	49
42	48	-6	36
52	48	4	16
65	48	17	289
72	48	24	576
82	48	34	1156

(5) $\sum (x_i - \bar{x}) = 0$ ✓

(7) $SS = 3924$

(2) $n = 9$

$\bar{x} = 48$

(8)

$$s^2 = \frac{\sum (x_i - \bar{x})^2}{n-1}$$

$$s^2 = \frac{3924}{9-1}$$

$$s^2 = 490.5$$

(9)

$$s = \sqrt{s^2}$$

$$s = \sqrt{490.5}$$

$$s = 22.147$$

The standard deviation is 22.147.

(3)

$$\bar{x} = \frac{\sum (x_i)}{n}$$

$$\bar{x} = \frac{11 + 31 + 36 + 41 + 42 + 52 + 65 + 72 + 82}{9}$$

$$\bar{x} = \frac{432}{9}$$

$$\bar{x} = 48$$

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Mean & Standard Deviation by Hand Example