6.50 The average of the given hardness values is calculated using Equation 6.21 as

$$\overline{\text{HRG}} = \frac{\sum\limits_{i=1}^{18} \text{HRG}_i}{18}$$

$$= \frac{47.3 + 52.1 + 45.6 \ldots + 49.7}{18} = 48.4$$

And we compute the standard deviation using Equation 6.22 as follows:

$$s = \sqrt{\frac{\sum\limits_{i=1}^{18} \left(\text{HRG}_i - \overline{\text{HRG}}\right)^2}{18 - 1}}$$

$$= \left[\frac{(47.3 - 48.4)^2 + (52.1 - 48.4)^2 + \ldots + (49.7 - 48.4)^2}{17}\right]^{1/2}$$

$$= \sqrt{\frac{64.95}{17}} = 1.95$$