1. **a.** range $= 16$
   b. mean $= 3$; median $= 2.5$
   c. Q1 $= 2$; Q3 $= 3$
2. **a.** range $= 8$
   b. mean $= 4$; median $= 4$
   c. Q1 $= 3$; Q3 $= 4$
3. Answers may vary. Aidan's class would have the larger MAD since it has an outlier at 16.
4. Aidan's MAD $= 1.4$
   Abby's MAD $= 1.1$
5. Answers may vary. I think that Aidan's IQR will be larger because that distribution has the largest value of 16 or I think that Abby's IQR will be bigger because the data in her distribution is on average bigger values than those in Aidan's distribution.
6. Aidan's IQR $= 1$
   Abby's IQR $= 1$
7. Answers may vary. The extreme value of 16 does not affect Aidan's IQR. Or, the size of the values in Abby's distribution will not matter except for how close the values in the middle of the distribution fall.

8. Answers will vary. While the range for Aidan's distribution is greater than that of Abby's distribution (16>8), the IQR values are the same (1). The mean and the median of Abby's distribution are larger than those of Aidan's distribution. Abby's distribution should be somewhat symmetrical since the mean equals the median but Aidan's distribution is skewed to the right since mean > median. The MAD values indicate that Aidan's distribution has values that lie farther from the mean on average than those in Abby's distribution.
9. **a.** No   **b.** No
   c. Yes   **d.** Yes
   e. No   **f.** No
10. Answers will vary.
    Mean $= 2.5$ for data 1, 2, 3, 4
    Median − Aidan's distribution
    Q1 $= 1.5$ for data 1, 2, 3, 4
    Q3 $= 3.5$ for data 1, 2, 3, 4
11. Answers may vary. It is important to describe a distribution using its center and spread (as well as shape) in order to get a complete picture of what the distribution looks like. Some distributions could have similar centers but not the same spread. Others could have the same spread, but not similar centers.