Problems:

1. 2.26.
   (a) Yes, 2,352.
   (b) Yes, 993.
   (c) No.
   (d) Yes, 3,493.

2. 2.32.
   (a) The class boundaries are 60.5, 66.5, 72.5, 78.5.
   (b) The class marks are 57.5, 63.5, 69.5, 75.5, 81.5.

3. 2.36. The frequency distribution will have values 1, 2, 15, 16, 4, 2.

4. 2.54.

5. 2.66.

There is a clear downward trend. As time goes on, the concentration of chlorine decreases.
6. 2.68.

There isn’t a very clear trend here. It looks like having at least 4g of additive is much better than having little, but adding any more doesn’t seem to help.

7. 3.2. If we consider the data set to be the daily amount of rain in April 2005, then the data collected is a population of data. However, if we thought of our population as the amount of daily rain in any given April, then this data would be a sample.

8. 3.10. The total amount of weight given by the crates is 13,910 pounds. This is quite a bit less than the maximum possible payload so there should be no danger.

9. 3.16. The fact that the mean temperature is 85 does not tell us everything. For example, it looks as if it is common for the temperature to be above 100, and this is above what most people would consider comfortable.

10. 3.20. The first student has a weighted average of 77.86. This is calculated as:

\[
\frac{72 + 80 + 65 + 4 \cdot 82}{7}.
\]

The second student has a weighted average of 79.29. This is calculated as:

\[
\frac{81 + 87 + 75 + 4 \cdot 78}{7}.
\]

11. 3.22. To compute the average size of the refrigerators, we should weight by the number of each model we have in stock. Thus we compute

\[
\frac{18 \times 15 + 12 \times 21 + 9 \times 19 + 14 \times 21 + 25 \times 24}{18 + 12 + 9 + 14 + 25} \approx 20.35.
\]

To compute the average price, we again use the same weighting, or

\[
\frac{18 \times \$416 + 12 \times \$549 + 9 \times \$649 + 14 \times \$716 + 25 \times \$799}{18 + 12 + 9 + 14 + 25} \approx \$639.95.
\]