5.5 Exploring Ratios – Notes

Here is a collection of sports balls.

We can use a **two-term ratio** to compare one part of the collection to the whole collection. There are **7** basketballs compared to **20** balls. The ratio of basketballs to all the balls is **7 to 20**, which is written as **7:20**. This is a **part-to-whole ratio**.

We can write a part-to whole ratio as a fraction. The ratio of basketballs to all the balls is **7:20**

A part-to-whole ratio can also be written as a percent:

$$7:20 \rightarrow \frac{7}{20} = 0.35 = 35\%$$

top÷bottom   x100

So, **35%** of the balls are basketballs.

We can use a two-term ratio to compare one part of the collection to another part of the collection. There are **5** golf balls compared to **8** tennis balls. The ratio of golf balls to tennis balls is written as **5 to 8**, or **5:8**. We cannot write the ratio in fraction form because the ratio is not comparing one part to the whole.

We can use a three-term ratio to compare the three types of balls. There are 5 golf balls to 8 tennis balls to 7 basketballs. We can write this as the ratio: **5 to 8 to 7**, or **5:8:7**.

Example: At a class party, there are 16 boys, 15 girls, and 4 adults.
Show each ratio as many different ways as you can.

a) boys to girls

16 to 15

16 : 15

⊗ cannot write this
part to part ratio
as a fraction.

b) boys to girls to adults

16 to 15 to 4

16 : 15 : 4

c) adults to total number of people at the party.

4 to 35

4 : 35

$$\frac{4}{35} = 0.1143 = 11.43\%$$

We can write
the part to whole
ratio as a
percentage.