Working with Aspect Ratios

Discussion

In this section, we've briefly discussed the aspect ratio of images. So, what exactly is the aspect ratio telling us? The aspect ratio is the ratio of width to height. This means that a picture whose aspect ratio is 2:1 is twice as wide as it is tall. Its dimensions could be 200 x 100 or 400 x 200 or 1600 x 800. Notice that for each of these dimensions, the *ratio* between width and height is 2:1.

Mathematically, this means $\frac{200}{100} = \frac{2}{1}$ and $\frac{400}{200} = \frac{2}{1}$ and $\frac{1600}{800} = \frac{2}{1}$.

Notice that if you are given one of the dimensions, you can solve for the other just like any other ratio.

Photographers are concerned with aspect ratio because it affects the balance of the picture. You don't want too much background in the picture because it distracts the viewer from the subject of the picture. On the other hand, having some background visible generally gives a context for the picture.

Think about when you go on vacation and you take pictures. You want to be in the picture, but usually you also want to be able to see what you've come to sightsee.

For example, the following picture has an aspect ratio of 5:4.

Here is the same picture, but this time its aspect ratio is 1:1.

See how the amount of background visible changes the focus of the picture?

Exercise

Part 1: In the grid below, draw the border of an image and state the dimensions you've given it if it has a:
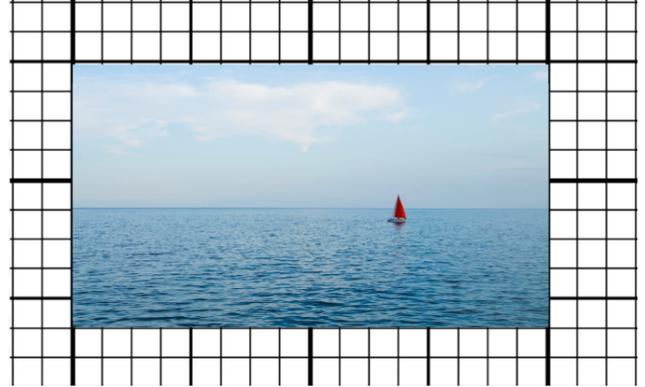
1. 1:1 aspect ratio
2. 2:1 aspect ratio
3. 4:3 aspect ratio
4. 16:9 aspect ratio

As an example, to the right is an outline with an aspect ratio of 5:4.

The width is 10 squares and the height is 8 squares. This means the ratio of width to height is $\frac{10}{8} = \frac{5}{4}$.
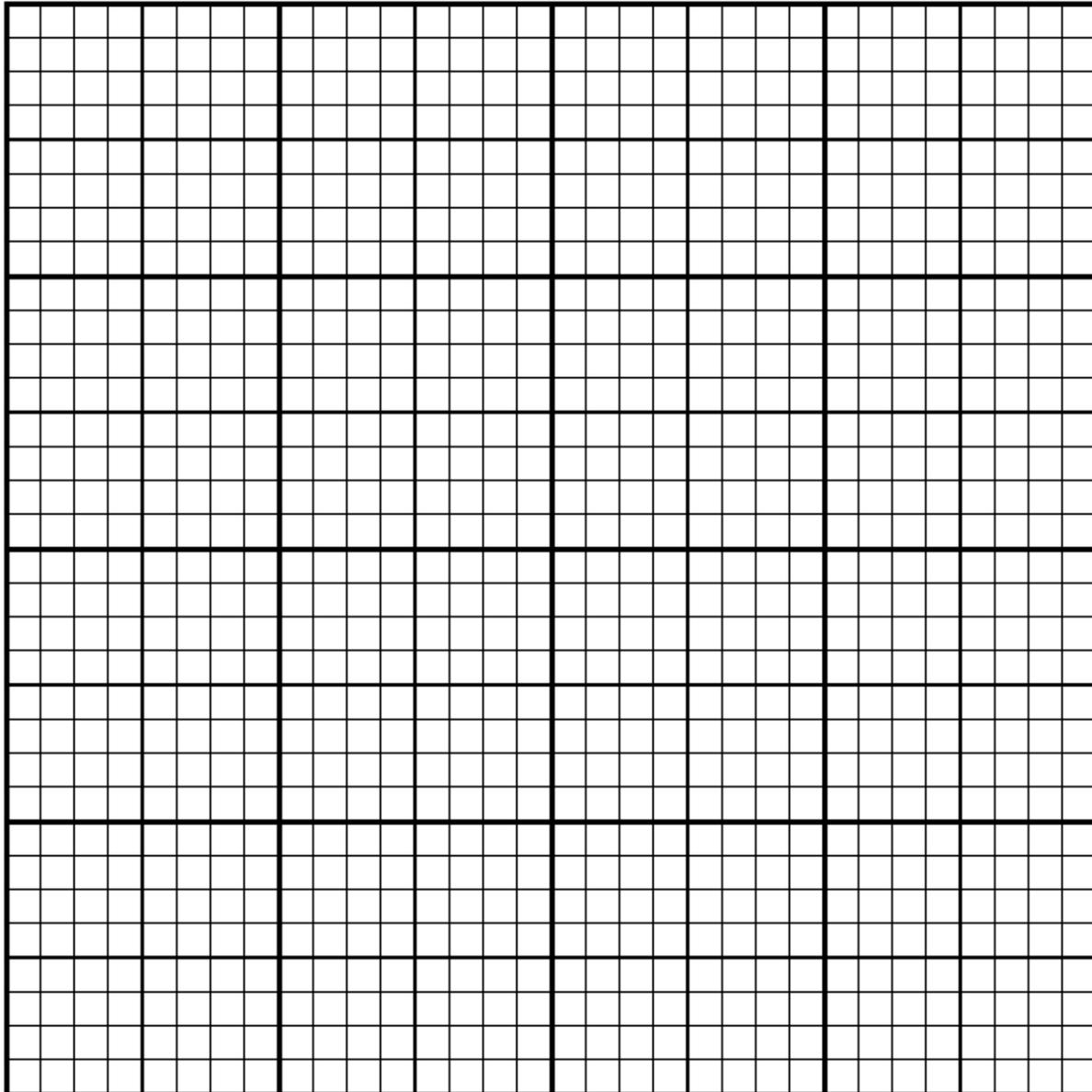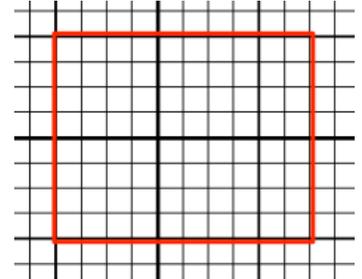
Part Two: The picture to the right is 1600 x 900 pixels. This means it has an aspect ratio of 16:9 because $\frac{1600}{900} = \frac{16}{9}$. The grid can help you see this. Each square represents 100 pixels. You can see that there are 9 squares for the height and 16 squares for the width.
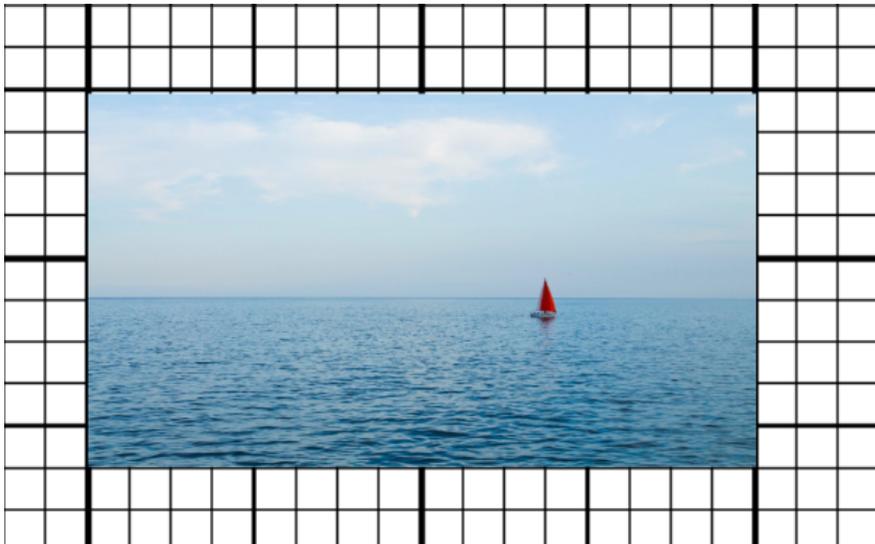

For each of the following, color or cover up part of the picture so it has the aspect ratio indicated. Make sure to crop the picture in such a way that the boat is still in the picture.
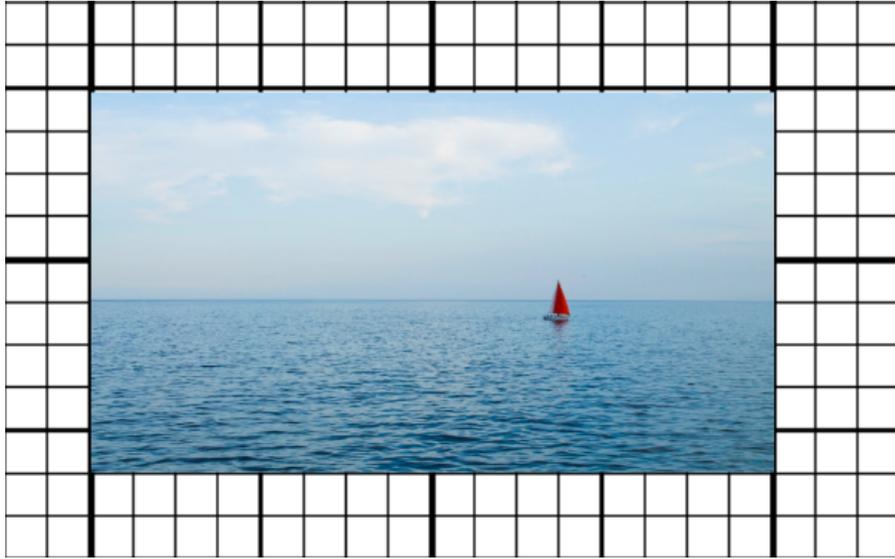
1. An aspect ratio of 3:2 with a width of 1200 pixels
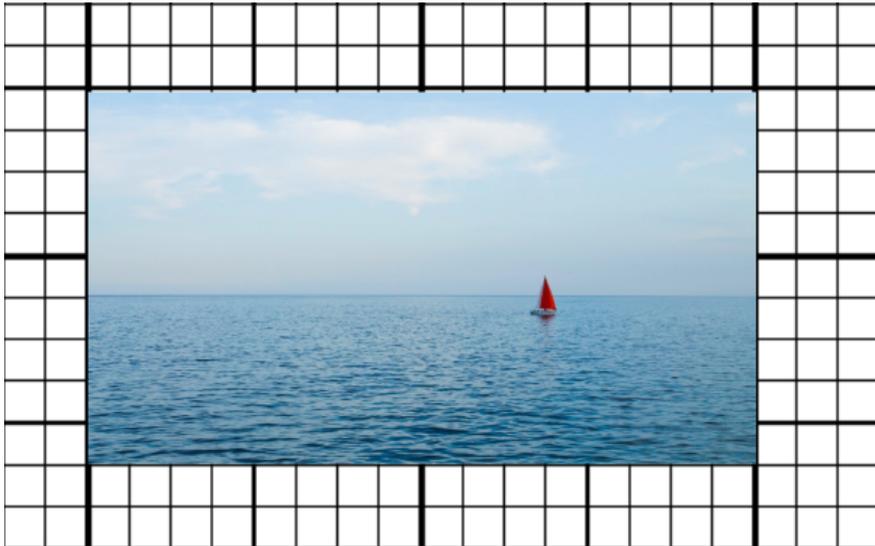
2. An aspect ratio of 4:3 with a width of 1200 pixels

3. An aspect ratio of 5:4 with a width of 1000 pixels

Discussion

1. How did changing the aspect ratio change the focus of the picture?

2. Which was your favorite aspect ratio?

3. Could you have used different dimensions when you cropped the picture and yet kept the required aspect ratio? If so, how? If not, why not?