

There are different ways to figure out how many inches 100 pixels corresponds to:

Here's one popular way.

Set up a proportion, and solve for x :

$$\frac{1024 \text{ pixels}}{11.2 \text{ inches}} = \frac{100 \text{ pixels}}{x \text{ inches}}$$

$$1024x = (11.2)(100)$$

$$x \approx 1.1$$

Here's another way. I love this way, even though at first glance it seems a bit more complicated. The reason I like it is because it reinforces one of my favorite ideas: expressions have lots of different names, and the name you use depends on what you want. There are two basic ways to get a new "name": add zero, or multiply by 1. You'll see that the "multiply by 1" technique works nicely here.

I have the "name"

$$\frac{1024 \text{ pixels}}{11.2 \text{ inches}}$$

and I want a "name" of the form

$$\frac{100 \text{ pixels}}{x \text{ inches}} .$$

To accomplish this, we need to make the number 1024 disappear upstairs, and make 100 appear upstairs, instead:

$$\begin{aligned} \frac{1024 \text{ pixels}}{11.2 \text{ inches}} &= \frac{1024 \text{ pixels}}{11.2 \text{ inches}} \cdot \frac{\frac{1}{1024}}{\frac{1}{1024}} \cdot \frac{100}{100} \\ &= \frac{100 \text{ pixels}}{11.2 \cdot \frac{1}{1024} \cdot 100} \\ &\approx \frac{100 \text{ pixels}}{1.1 \text{ inches}} \end{aligned}$$