

$2\sqrt{\frac{2}{3}} = \sqrt{2\frac{2}{3}}$ is a correct equation. (This is all the book gives).

But here's my proof:

$$\sqrt{2\frac{2}{3}} = \sqrt{\frac{8}{3}} = \sqrt{\frac{4 \cdot 2}{3}} = \sqrt{\frac{4}{1} \cdot \frac{2}{3}} = \sqrt{4 \cdot \frac{2}{3}} = 2\sqrt{\frac{2}{3}}$$

The key is to remember that these two equations are both true:

$$\frac{8}{3} = 2 + \frac{2}{3} \quad \frac{8}{3} = 4 \cdot \frac{2}{3}$$

Good one, don't you think? Now let's see how the kids do!