

Simplify each.

1. $8\sqrt{108} - 7\sqrt{48} - 2\sqrt{75}$

2. $9\sqrt[3]{250} + 5\sqrt{64} - 11\sqrt[3]{128}$

3. $(2\sqrt{3} - 5\sqrt{11})(4\sqrt{3} - 3\sqrt{11})$

4. The planned width of a rectangular garden is $\frac{2}{3}$ of its length. If 4 meters were added to the garden's width and 4 meters were also subtracted from the garden's length, the garden would be a square. Find the width of the rectangular garden.

Simplify each.

$$1. \frac{8\sqrt{108}}{36 \cdot 3} - \frac{7\sqrt{48}}{16 \cdot 3} - \frac{2\sqrt{75}}{25 \cdot 3}$$

$$48\sqrt{3} - 28\sqrt{3} - 10\sqrt{3}$$

$$= 10\sqrt{3}$$

$$2. \frac{9\sqrt{250}}{125 \cdot 2} + \frac{5\sqrt{64}}{64 \cdot 2} - \frac{11\sqrt{128}}{64 \cdot 2}$$

$$45\sqrt{2} + 40 - 44\sqrt{2}$$

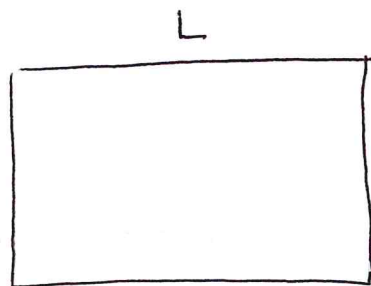
$$\sqrt{2} + 40$$

$$3. (2\sqrt{3} - 5\sqrt{11})(4\sqrt{3} - 3\sqrt{11})$$

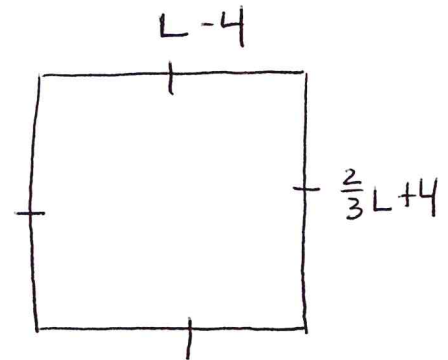
$$189 - 26\sqrt{33}$$

	$2\sqrt{3}$	$-5\sqrt{11}$
$4\sqrt{3}$	$8 \cdot 3 = 24$	$-20\sqrt{33}$
$-3\sqrt{11}$	$-6\sqrt{33}$	$15 \cdot 11 = 165$

4. The planned width of a rectangular garden is $\frac{2}{3}$ of its length. If 4 meters were added to the garden's width and 4 meters were also subtracted from the garden's length, the garden would be a square. Find the width of the rectangular garden.



$$W = \frac{2}{3}L$$



$$W = \frac{2}{3}(24)$$

$$W = 16 \text{ meters}$$

$$L-4 = \frac{2}{3}L + 4$$

$$\frac{1}{3}L = 8$$

$$L = 24$$