Multiply Two Surds and Simplify

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1. Work out the following.

a) $2 \times \sqrt{7}$

b) $\sqrt{2} \times \sqrt{7}$

c) $\sqrt{7} \times \sqrt{2}$

2. Fill in the blanks.

a) $\sqrt{} \times \sqrt{10} = \sqrt{30}$

b) $\sqrt{} \times \sqrt{2} = \sqrt{2a}$

c) $\sqrt{} \times \sqrt{} = \sqrt{cd}$

d) $\sqrt{7} \times \sqrt{} = 3\sqrt{7}$

3. Complete the calculations.

a) $\sqrt{8} \times \sqrt{} = \sqrt{40}$

$\sqrt{40} = \sqrt{} \times \sqrt{10}$

$\sqrt{40} = \boxed{} \times \sqrt{10}$

$= \boxed{}$

b) $\sqrt{5} \times \sqrt{10} = \sqrt{}$

$\sqrt{50} = \sqrt{} \times \sqrt{2}$

$\sqrt{50} = \boxed{} \times \sqrt{2}$

$= \boxed{}$

Multiply Two Surds and Simplify

4. Simplify fully.

a) $\sqrt{2} \times \sqrt{8}$

b) $\sqrt{3} \times \sqrt{27}$
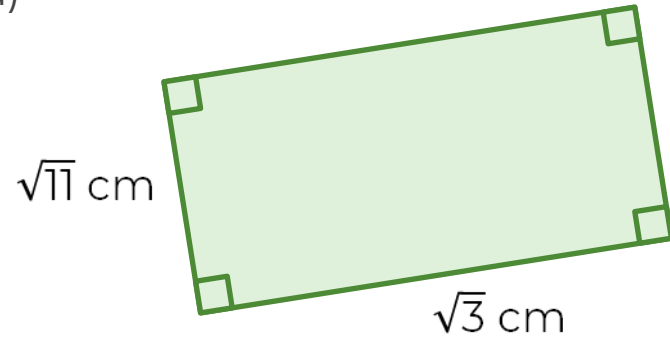
c) $\sqrt{50} \times \sqrt{8}$

5. Simplify fully.

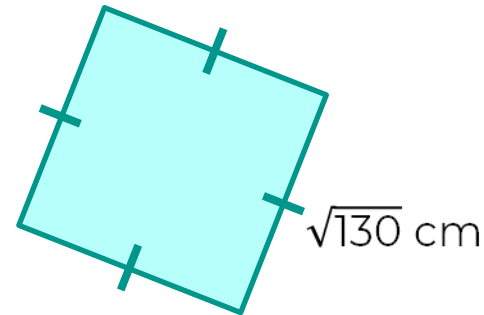a) $\left(\sqrt{5}\right)^2 = \sqrt{5} \times \sqrt{5} =$

b) $\left(\sqrt{12}\right)^2 =$

c) $\left(\sqrt{a}\right)^2 =$

6. Calculate the area of each shape.

a)

$\sqrt{11}$ cm

$\sqrt{3}$ cm

b)

$\sqrt{130}$ cm

Answers

Multiply Two Surds and Simplify

1. Work out the following.

a) $2 \times \sqrt{7} = 2\sqrt{7}$

b) $\sqrt{2} \times \sqrt{7} = \sqrt{14}$

c) $\sqrt{7} \times \sqrt{2} = \sqrt{14}$

2. Fill in the blanks.

a) $\sqrt{3} \times \sqrt{10} = \sqrt{30}$

b) $\sqrt{a} \times \sqrt{2} = \sqrt{2a}$

c) $\sqrt{c} \times \sqrt{d} = \sqrt{cd}$

d) $\sqrt{7} \times \sqrt{9} = 3\sqrt{7}$
      Or 3

3. Complete the calculations.

a)
$$\sqrt{8} \times \sqrt{5} = \sqrt{40}$$
$$\sqrt{40} = \sqrt{4} \times \sqrt{10}$$
$$\sqrt{40} = 2 \times \sqrt{10}$$
$$2\sqrt{10}$$

b)
$$\sqrt{5} \times \sqrt{10} = \sqrt{50}$$
$$\sqrt{50} = \sqrt{25} \times \sqrt{2}$$
$$\sqrt{50} = 5 \times \sqrt{2}$$
$$5\sqrt{2}$$

Multiply Two Surds and Simplify

4. Simplify fully.

a) $\sqrt{2} \times \sqrt{8} = \sqrt{16} = 4$

b) $\sqrt{3} \times \sqrt{27} = \sqrt{81} = 9$

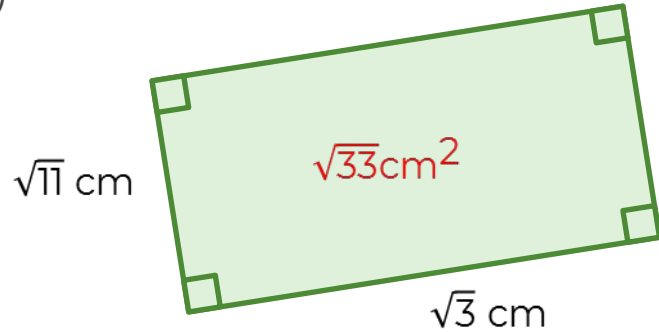c) $\sqrt{50} \times \sqrt{8} = \sqrt{400} = 20$

5. Simplify fully.

a) $\left(\sqrt{5}\right)^2 = \sqrt{5} \times \sqrt{5} = \sqrt{25} = 5$

b) $\left(\sqrt{12}\right)^2 = \sqrt{12} \times \sqrt{12} = \sqrt{144} = 12$

c) $\left(\sqrt{a}\right)^2 = \sqrt{a} \times \sqrt{a} = a$

6. Calculate the area of the shapes.

a)

$\sqrt{11}$ cm

$\sqrt{33}$ cm^2

$\sqrt{3}$ cm

b)

130 cm^2

$\sqrt{130}$ cm