

Multiply Two Surds with Coefficients



Multiply Two Surds with Coefficients

1. Work out the following.

a) $3 \times 2\sqrt{7}$

b) $3\sqrt{5} \times 4$

c) $5\sqrt{10} \times \sqrt{3}$

d) $10\sqrt{3} \times 3\sqrt{5}$

e) $(3\sqrt{7})^2$

2. Match up the equivalent calculations.

$$\sqrt{20} \times \sqrt{50}$$

$$\sqrt{200} \times \sqrt{8}$$

$$\sqrt{32} \times \sqrt{50}$$

$$\sqrt{500} \times \sqrt{40}$$

$$\sqrt{32} \times \sqrt{20}$$

$$10\sqrt{2} \times 2\sqrt{2}$$

$$4\sqrt{2} \times 2\sqrt{5}$$

$$2\sqrt{5} \times 5\sqrt{2}$$

$$10\sqrt{5} \times 2\sqrt{10}$$

$$4\sqrt{2} \times 5\sqrt{2}$$



Multiply Two Surds with Coefficients

3. Fully simplify.

a) $\sqrt{200} \times \sqrt{50}$

b) $\sqrt{1000} \times 4\sqrt{2}$

c) $5\sqrt{10} \times \sqrt{32}$

d) $\sqrt{300} \times 3\sqrt{5}$

e) $(\sqrt{500})^2$

4. Simplify the expressions.

a) $4\sqrt{5} \times 5\sqrt{a}$

b) $10\sqrt{b} \times 4\sqrt{c}$

c) $d\sqrt{10} \times d\sqrt{e}$

d) $12\sqrt{f} \times 10\sqrt{f}$

e) $g\sqrt{9796} \times h\sqrt{9796}$



Answers



Multiply Two Surds with Coefficients

1. Work out the following.

a) $3 \times 2\sqrt{7} = 6\sqrt{7}$

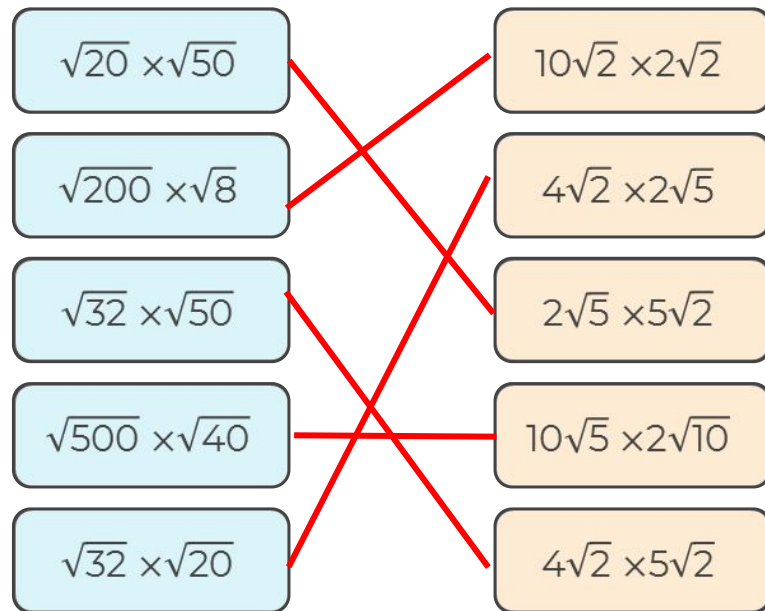
b) $3\sqrt{5} \times 4 = 12\sqrt{5}$

c) $5\sqrt{10} \times \sqrt{3} = 5\sqrt{30}$

d) $10\sqrt{3} \times 3\sqrt{5} = 30\sqrt{15}$

e) $(3\sqrt{7})^2 = 9\sqrt{49} = 9 \times 7 = 63$

2. Match up the equivalent calculations.



Multiply Two Surds with Coefficients

3. Fully simplify.

$$\text{a) } \sqrt{200} \times \sqrt{50} = 10\sqrt{2} \times 5\sqrt{2} = 100$$

$$\text{b) } \sqrt{1000} \times 4\sqrt{2} = 10\sqrt{10} \times 4\sqrt{2} = 40\sqrt{20} = 40 \times 2\sqrt{5} = 80\sqrt{5}$$

$$\text{c) } 5\sqrt{10} \times \sqrt{32} = 5\sqrt{10} \times 4\sqrt{2} = 20\sqrt{20} = 20 \times 2\sqrt{5} = 40\sqrt{5}$$

$$\text{d) } \sqrt{300} \times 3\sqrt{5} = 10\sqrt{3} \times 3\sqrt{5} = 30\sqrt{15}$$

$$\text{e) } (\sqrt{500})^2 = 500$$

4. Simplify the expressions.

$$\text{a) } 4\sqrt{5} \times 5\sqrt{a} = 20\sqrt{5a}$$

$$\text{b) } 10\sqrt{b} \times 4\sqrt{c} = 40\sqrt{bc}$$

$$\text{c) } d\sqrt{10} \times d\sqrt{e} = d^2\sqrt{10e}$$

$$\text{d) } 12\sqrt{f} \times 10\sqrt{f} = 120f$$

$$\text{e) } g\sqrt{9796} \times h\sqrt{9796} = 9796gh$$

