

Fill in the Blanks

Simplifying Surds

| Question | Surd as a Product of its Prime Factors | Simplify 'Repeated' Surds | Answer |
|--------------|--|---------------------------------------|--------------|
| $\sqrt{12}$ | $\sqrt{2} \times \sqrt{2} \times \sqrt{3}$ | $2 \times \sqrt{3}$ | $2\sqrt{3}$ |
| $\sqrt{40}$ | $\sqrt{2} \times \sqrt{2} \times \sqrt{2} \times \sqrt{5}$ | $2 \times \sqrt{2} \times \sqrt{5}$ | $2\sqrt{10}$ |
| $\sqrt{18}$ | $\sqrt{2} \times \sqrt{3} \times \sqrt{3}$ | $3 \times \sqrt{2}$ | $3\sqrt{2}$ |
| $\sqrt{75}$ | $\sqrt{3} \times \sqrt{5} \times \sqrt{5}$ | $5 \times \sqrt{3}$ | $5\sqrt{3}$ |
| $\sqrt{20}$ | $\sqrt{2} \times \sqrt{2} \times \sqrt{5}$ | $2 \times \sqrt{5}$ | $2\sqrt{5}$ |
| $\sqrt{90}$ | $\sqrt{3} \times \sqrt{3} \times \sqrt{2} \times \sqrt{5}$ | $3 \times \sqrt{2} \times \sqrt{5}$ | $3\sqrt{10}$ |
| $\sqrt{63}$ | $\sqrt{3} \times \sqrt{3} \times \sqrt{7}$ | $3 \times \sqrt{7}$ | $3\sqrt{7}$ |
| $\sqrt{48}$ | $\sqrt{2} \times \sqrt{2} \times \sqrt{2} \times \sqrt{2} \times \sqrt{3}$ | $2 \times 2 \times \sqrt{3}$ | $4\sqrt{3}$ |
| $\sqrt{72}$ | $\sqrt{2} \times \sqrt{2} \times \sqrt{2} \times \sqrt{3} \times \sqrt{3}$ | $2 \times 3 \times \sqrt{2}$ | $6\sqrt{2}$ |
| $\sqrt{200}$ | $\sqrt{2} \times \sqrt{2} \times \sqrt{2} \times \sqrt{5} \times \sqrt{5}$ | $2 \times 5 \times \sqrt{2}$ | $10\sqrt{2}$ |
| $\sqrt{162}$ | $\sqrt{2} \times \sqrt{3} \times \sqrt{3} \times \sqrt{3} \times \sqrt{3}$ | $3 \times 3 \times \sqrt{2}$ | $9\sqrt{2}$ |
| $\sqrt{675}$ | $\sqrt{3} \times \sqrt{3} \times \sqrt{3} \times \sqrt{5} \times \sqrt{5}$ | $3 \times 5 \times \sqrt{3}$ | $15\sqrt{3}$ |
| $\sqrt{150}$ | $\sqrt{2} \times \sqrt{3} \times \sqrt{5} \times \sqrt{5}$ | $5 \times \sqrt{2} \times \sqrt{3}$ | $5\sqrt{6}$ |
| $\sqrt{300}$ | $\sqrt{2} \times \sqrt{2} \times \sqrt{3} \times \sqrt{5} \times \sqrt{5}$ | $2 \times 5 \times \sqrt{3}$ | $10\sqrt{3}$ |
| $\sqrt{448}$ | $\sqrt{2} \times \sqrt{2} \times \sqrt{2} \times \sqrt{2} \times \sqrt{2} \times \sqrt{2} \times \sqrt{7}$ | $2 \times 2 \times 2 \times \sqrt{7}$ | $8\sqrt{7}$ |