

Simplifying Radical Expressions With Super X!

When you have multiplication you can split the radical!

Factor out
GCF



Split Radical



Do Super X
then simplify

Ex ① $\sqrt{\frac{2x^2 + 2x + 18}{2}}$

$$\sqrt{2(x^2 + 6x + 9)}$$

$$\sqrt{2} \cdot \sqrt{x^2 + 6x + 9}$$

$$\sqrt{2} \cdot \sqrt{(x+3)^2}$$

$$(x+3)\sqrt{2}$$

$\frac{3}{x}$ $\frac{3}{x}$ $(x+3)(x+3)$
 $(x+3)^2$

Ex ② $\sqrt{\frac{4x^2 + 40x + 100}{4}}$

$$\sqrt{4(x^2 + 10x + 25)}$$

$$\sqrt{4} \cdot \sqrt{x^2 + 10x + 25}$$

$$2 \cdot \sqrt{(x+5)^2}$$

$$2(x+5)$$

$\frac{5}{x}$ $\frac{5}{x}$ $(x+5)(x+5)$
 $(x+5)^2$

③ $\sqrt{4x^2 + 56x + 196}$