

Solutions

2.1 $12=4\times 3$, so $\sqrt{12}=2\sqrt{3}$.

2.2 $\sqrt{12}=2\sqrt{3}$ and $\sqrt{27}=3\sqrt{3}$; add coefficients $2+3=5$.

2.3 Multiply by $\sqrt{3}/\sqrt{3}$: $6\sqrt{3}/3=2\sqrt{3}$.

3.1 False. Set $a=b=1$: $\sqrt{(1+1)}=\sqrt{2}$, whereas $\sqrt{1}+\sqrt{1}=2$. Their squares are 2 and 4.

Local review guidance: show the chosen method; give the checked result; explain the condition or failed shortcut. This is authored classroom guidance.