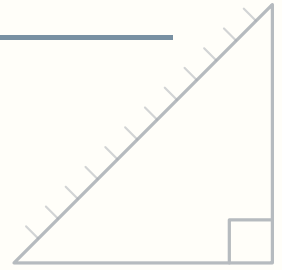


Algebra reasoning — Square roots

Name: _____

Date: _____



Read each line of working and choose the answer that is correct.

1 Mia says $\sqrt{(4x^2)} + \sqrt{(49x^2)}$ comes to $x\sqrt{53}$. Which is correct?

$x\sqrt{53}$

$14x$

$9x$

$53x$

Why? the two insides were added under one root before either was rooted.

2 On Sam's paper: $\sqrt{(27x^2)} + \sqrt{(3x^2)} = x\sqrt{30}$. Which line should replace it?

$x\sqrt{30}$

$4x\sqrt{6}$

$4x\sqrt{3}$

$4x$

Why?

3 Sam wrote $\sqrt{(25x^2)} + \sqrt{(36x^2)} = x\sqrt{61}$. What should it be?

$11x$

$30x$

$x\sqrt{61}$

$61x$

Why?

4 Check this line: $\sqrt{(96x^2)} + \sqrt{(6x^2)} = 5x$. Which is correct?

$5x$

$5x\sqrt{12}$

$x\sqrt{102}$

$5x\sqrt{6}$

Why?



Algebra reasoning · Square roots — Answer key

1. $\sqrt{4x^2} + \sqrt{49x^2} = 9x$, not $x\sqrt{53}$ (the two insides were added under one root before either was rooted)

2. $\sqrt{27x^2} + \sqrt{3x^2} = 4x\sqrt{3}$, not $x\sqrt{30}$ (the two insides were added under one root before either was rooted)

3. $\sqrt{25x^2} + \sqrt{36x^2} = 11x$, not $x\sqrt{61}$ (the two insides were added under one root before either was rooted)

4. $\sqrt{96x^2} + \sqrt{6x^2} = 5x\sqrt{6}$, not $5x$ (the part that would not come out was dropped)

