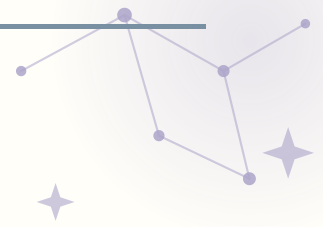


Algebra reasoning — Exponent laws

Name: _____

Date: _____



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

1 Spot the mistake: $(x^3)^2 \cdot x^2 = x^{12}$. Which answer is right?

x^{12}

x^6

x^7

x^8

Why? the last power was multiplied in as well as the first two.

2 On Priya's paper: $x^3 \cdot x^3 \div x^2 = x^2$. Which line should replace it?

x^2

x^4

x^7

x^8

Why?

3 Ben wrote $(x^3)^4 \cdot x^2 = x^9$. Which is correct?

x^{12}

x^{24}

x^9

x^{14}

Why?

4 On Ana's paper: $x^4 \cdot x^3 \div x^2 = x^9$. Which line should replace it?

x^5

x^{10}

x^9

x^3

Why?



Algebra reasoning · Exponent laws — Answer key

1. $(x^3)^2 \cdot x^2 = x^8$, not x^{12} (the last power was multiplied in as well as the first two)

2. $x^3 \cdot x^3 \div x^2 = x^4$, not x^2 (the second power was taken away and the third one added)

3. $(x^3)^4 \cdot x^2 = x^{14}$, not x^9 (the stacked powers were added where they should be multiplied)

4. $x^4 \cdot x^3 \div x^2 = x^5$, not x^9 (the dividing step added its power instead of taking it away)

