



GRADE 6 · EXPRESSIONS & EQUATIONS · HOMEWORK

EQUIVALENT EXPRESSIONS

Today's goal: I can determine whether expressions are equivalent using the properties of operations to simplify or expand expressions, use substitution of the variable to determine whether expressions are equivalent and explain whether expressions are equivalent using the properties of operations and substitution of the variable.



Pick your peppers!

Everyone does Mild & Medium. Then climb as high as you can.



Mild

Tan the Turtle



Medium

Digit the Fox



Spicy

Blaze the Dragon

WATCH MR DJ SOLVE

Are $5x + 2x$ and $7x$ equivalent? Explain.

1 Like terms: $5x + 2x = 7x$.

Answer: **Equivalent**



REMEMBER Equivalent = equal for **every** value. Prove it by simplifying/expanding until the forms match, or disprove it with ONE value where they differ. Never decide from a single agreeing value.



FAMILY CORNER

No need to remember this math yourself! Ask your student to teach you Mr DJ's example, then try the first Mild problem together.



MILD

Tan the Turtle: Slow and steady. Warm up!

1 Are $3(x + 4)$ and $3x + 12$ equivalent? Explain.

Answer:



OOPS ALERT

Careful on #1! The slip Mr DJ sees most: Said no because the forms differ.



MEDIUM

Digit the Fox: Stretch your brain.

- 2** Are $2(x + 5)$ and $2x + 5$ equivalent? Expand and test.

Answer

- 3** Are $8x + 4$ and $4(2x + 1)$ equivalent? Explain using factoring.

Answer

- 4** Are $4x$ and $x + 3$ equivalent? They both equal 4 when $x = 1$. Test another value.

Answer

- 5** Are $x + x$ and $2x$ equivalent? Explain.

Answer



SPICY

Blaze the Dragon: Bring the heat!

- 6 Are $9x - 4x$ and $5x$ equivalent? Show it two different ways.

Answer

- 7 Explain why finding ONE value where two expressions agree does not prove they are equivalent, but finding ONE value where they differ DOES prove they are not.

Answer



How did this sheet feel?

☐ Easy for me ☐ Just right ☐ Made me think

Stuck? Watch Mr DJ explain it

"Combining Like Terms - Watch me solve this in under 2 minutes - then you try one!" on YouTube: [youtube.com/@MathWithMrDJ](https://www.youtube.com/@MathWithMrDJ)

Brain break: daily puzzles

Three new math puzzles every day, free: puzzles.mathwithmrdj.com