



GRADE 6 · EXPRESSIONS & EQUATIONS · HOMEWORK

CHECKING SOLUTIONS BY SUBSTITUTION

Today's goal: I can use substitution to determine whether a number or a set of numbers makes an equation true, use substitution to determine whether a number or a set of numbers makes a one-variable, one-step equation true, use substitution to determine whether a number or a set of numbers makes a one-variable, one-step inequality true, use substitution to determine whether a number or a set of numbers makes an inequality true and demonstrate that the solution of an equation or inequality is the value of the variable that will make the equation or inequality true.



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

Is $m = 13$ a solution of $m - 9 = 4$?

1 $13 - 9 = 4 \rightarrow \text{true.}$

Answer: **Yes**



REMEMBER

Put the value **back into the original statement** and decide whether it is true. Is $k = 15$ a solution of $k - 6 = 9$? $15 - 6 = 9 \rightarrow 9 = 9 \checkmark$ Yes. Watch the symbol: $<$ and $>$ exclude the boundary, $\leq$ and $\geq$ include it.



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 Is $n = 8$ a solution of $n + 6 = 14$?

Answer

2 Is $y = 7$ a solution of $6y = 42$?

Answer

**OOPS ALERT**

Careful on #1! The slip Mr DJ sees most: Re-solved instead of substituting.

**MEDIUM**

Digit the Fox: Stretch your brain.

3 Is $x = 20$ a solution of $x \div 4 = 5$?

Answer

4 Is $x = 5$ a solution of $3x + 2 = 17$? Show every step.

Answer

5 For $x < 7$, is 6 a solution? Is 7? Explain.

Answer

**SPICY**

Blaze the Dragon: Bring the heat!

6 For $x \leq 8$, is 8 a solution? Is 9? Explain how $\leq$ differs from $<$.

Answer

- 7 From the set $\{1, 2, 3, 6\}$, list every value that is a solution of $x < 3$. Show each test, then explain why this inequality has solutions you could not list completely.

Answer



How did this sheet feel?

☐

Easy for me

☐

Just right

☐

Made me think

Stuck? Watch Mr DJ explain it

"Variables, Expressions, and Equations Explained | Algebra for Beginners" on YouTube: youtube.com/@MathWithMrDJ

Brain break: daily puzzles

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