



GRADE 7 · RATIOS & PROPORTIONAL RELATIONSHIPS · PRACTICE

MULTI-STEP PERCENT PROBLEMS

Today's goal: I can solve multi-step percent problems, including by using proportional relationships.



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

Increase 40 by 10%.

1 $40 \times 1.1 = 44$. Or 10% of $40 = 4$, then $40 + 4 = 44$.

Answer: **44**



REMEMBER Percent of an amount: multiply by the percent over 100. Increase by $p\%$: multiply by $1 + p/100$. Decrease by $p\%$: multiply by $1 - p/100$. Percent change = $(\text{new} - \text{old}) \div \text{old}$, as a percent.



MILD

Tan the Turtle: Slow and steady. Warm up!

1 Find 30% of 50.

Answer

2 Find 8% of 250.

Answer



OOPS ALERT

Careful on #1! The slip Mr DJ sees most: Answered 30.



MEDIUM

Digit the Fox: Stretch your brain.

- 3** Decrease 90 by 30%.

Answer

- 4** Increase 200 by 50%.

Answer

- 5** Now decrease your answer to question 4 by 50%. What do you get?

Answer

- 6** Find the percent change from 200 to 150.

Answer



SPICY

Blaze the Dragon: Bring the heat!

- 7 You started at 200 and finished at 150. Explain why the two 50% changes did not cancel.

Answer

- 8 What single percent decrease would undo a 50% increase? Show that your answer works on 200.

Answer



How did this sheet feel?

☐

Easy for me

☐

Just right

☐

Made me think

Stuck? Watch Mr DJ explain it

"Finding Percent of a Number: Step by Step Guide" on
YouTube: [youtube.com/@MathWithMrDJ](https://www.youtube.com/@MathWithMrDJ)

Brain break: daily puzzles

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