



GRADE 7 · RATIOS & PROPORTIONAL RELATIONSHIPS · HOMEWORK

RECOGNIZING PROPORTIONAL RELATIONSHIPS

Today's goal: I can represent proportional relationships between quantities and recognize proportional relationships between quantities.



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



Extra Spicy

Pi the Owl

WATCH MR DJ SOLVE

Using that k , find y when $x = 7$.

1 $y = 4 \times 7 = 28$.

Answer: **28**



REMEMBER Proportional means $y \div x$ is the same for every pair. That constant is k and the rule is $y = kx$. The graph must pass through $(0, 0)$. A constant difference makes a relationship linear, not proportional.



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 For the pair $(4, 12)$, find $y \div x$.

Answer

2 For the pair $(5, 20)$, find $y \div x$.

Answer



OOPS ALERT

Careful on #1! The slip Mr DJ sees most: Reversed the division.

**MEDIUM****Digit the Fox:** Stretch your brain.

- 3 A table pairs x with y : $(5, 20)$, $(7, 28)$, $(9, 36)$. Find k .

Answer

- 4 Using that k , find x when $y = 36$.

Answer

**SPICY****Blaze the Dragon:** Bring the heat!

- 5 Could $(4, 12)$ and $(5, 20)$ both belong to the same proportional relationship? Explain.

Answer

- 6 In a proportional relationship with $k = 3$, x goes from 2 to 4. Show that y doubles too.

Answer

**EXTRA SPICY****Pi the Owl:** Big-brain challenge.

- 7** Now try the same doubling on $y = 2x + 3$: compare y at $x = 2$ with y at $x = 4$. Does y double? What does that tell you?

Answer

**How did this sheet feel?**☐

Easy for me

☐

Just right

☐

Made me think

Stuck? Watch Mr DJ explain it

Step-by-step video lessons on YouTube: [youtube.com/
@MathWithMrDJ](https://www.youtube.com/@MathWithMrDJ)

Brain break: daily puzzles

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