



GRADE 7 · GEOMETRY · HOMEWORK

ANGLE RELATIONSHIPS

Today's goal: I can find an unknown angle, including by writing and solving equations and write equations for multi-step problems to find an unknown angle.



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

Check question 4 by substituting your value back in.

1 $5 \times 21 = 105$, and $105 - 15 = 90$. Correct.

Answer: $5(21) - 15 = 90^\circ$



REMEMBER Complementary $\rightarrow 90^\circ$. Supplementary $\rightarrow 180^\circ$. Vertical $\rightarrow$ equal. Straight line $\rightarrow 180^\circ$. Solve for x , then convert back to the actual angles, then check they satisfy the relationship.



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 Find the complement of 18° .

Answer

2 Find the supplement of 18° .

Answer



OOPS ALERT

Careful on #1! The slip Mr DJ sees most: Answered 162° .

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

- 3 Four equal angles lie on a straight line: $4x = 180$. Find x .

Answer

- 4 An angle of $(5x - 15)^\circ$ is a right angle. Write an equation and find x .

Answer

- 5 Three angles on a straight line are x , $3x$ and 40° . Write an equation and find x .

Answer

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

- 6 Find all three angles from question 5 and confirm they sum correctly.

Answer

- 7 Two lines cross. A student says the four angles must all be 90° . Give a counterexample and state what IS always true about the four angles.

Answer



How did this sheet feel? ☐ Easy for me ☐ Just right ☐ Made me think

Stuck? Watch Mr DJ explain it

"Angles and Parallel Lines Explained Step by Step" on YouTube: youtube.com/@MathWithMrDJ

Brain break: daily puzzles

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