

GRADE 7 · EXPRESSIONS & EQUATIONS · PRACTICE

FACTORIZING & EXPANDING LINEAR EXPRESSIONS

Today's goal: I can expand linear expressions with rational coefficients and factor linear expressions with rational coefficients.



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

Expand $5(x - 4)$.

- 1 $5 \times x = 5x$
- 2 $5 \times (-4) = -20$.
- 3 Remember x means $1x$.

Answer: $5x - 20$



REMEMBER Expanding: multiply the outside number by **each** term inside, watching signs. Factoring: find the **greatest** common factor of every term, pull it out, and check the bracket has no factor left.



MILD

Tan the Turtle: Slow and steady. Warm up!

- 1 Expand $4(3x + 2)$.

Answer



OOPS ALERT

Careful on #1! Blaze spotted the slip Mr DJ sees most: Answered $12x + 2$.



MEDIUM

Digit the Fox: Stretch your brain.

2 Expand $-3(2x + 7)$.

Answer

3 Expand $-3(2x - 7)$.

Answer

4 Expand $\frac{1}{2}(6x + 8)$.

Answer

5 Factor $20x + 30$ completely.

Answer

6 Factor $9x - 15$ completely.

Answer



SPICY

Blaze the Dragon: Bring the heat!

- 7 Questions 2 and 3 differ by one sign inside the bracket. Compare your answers and explain what changed.

Answer

- 8 A student factors $20x + 30$ as $2(10x + 15)$. Is this wrong? Explain precisely, and give the complete factoring.

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