



GRADE 6 · EXPRESSIONS & EQUATIONS · PRACTICE

EXPANDING & FACTORING EXPRESSIONS

Today's goal: I can apply the distributive property to expand simple expressions and apply the distributive property to factor simple expressions.



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

Expand $3(2x + 5)$.

1 $3 \cdot 2x = 6x$

2 $3 \cdot 5 = 15$.

Answer: $6x + 15$



REMEMBER

Expand: multiply the outside number by EVERY term inside. $6(x + 3) = 6x + 18$. **Factor:** pull out the GCF and divide EVERY term by it. $16x + 24 \rightarrow \text{GCF } 8 \rightarrow 8(2x + 3)$. Check either direction by multiplying back.



MILD

Tan the Turtle: Slow and steady. Warm up!

1 Expand $2(x + 7)$.

Answer

2 Expand $4(x + 2)$.

Answer



OOPS ALERT

Careful on #1! The slip Mr DJ sees most: Answered $2x + 7$ — first term only.



☹☹ MEDIUM

Digit the Fox: Stretch your brain.

3 Expand $7(x + 3)$.

Answer

4 Factor $8x + 12$ using the GCF.

Answer

5 Factor $10x + 25$ using the GCF.

Answer



☹☹☹ SPICY

Blaze the Dragon: Bring the heat!

6 Factor $15x + 20$, then check your answer by expanding it back.

Answer

7 Expand $6(x + 2)$ and evaluate both the original and your expansion at $x = 9$ to show they match.

Answer

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

- 8 Sam factors $24x + 36$ as $4(6x + 9)$. Is his equation true? Is it fully factored? Explain.

Grid area for writing the answer.

Answer

Answer box.

**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