Write and Evaluate Numerical Expressions with Exponents

Write one numerical expression for a situation and evaluate it, powers included.

Name _____ **Date** _____

Tonight's spark

A theater order has three lines: 2 tickets at \$15, 4 tickets at \$20, and 8 tickets at 2^3 dollars each. What does the whole order cost?

Make a guess first: is the order more or less than \$100?

The order, top to bottom

P	Parentheses ( )	
E	Exponents (powers)	1
M D	Multiply × or divide ÷	2
A S	Add + or subtract −	3

Our steps

Start	$2 \times 15 + 4 \times 20 + 8 \times 2^3$
1. E	$2 \times 15 + 4 \times 20 + 8 \times 8$
2. M D	$30 + 80 + 64$
3. A S	\$174

Our class model: one expression for the whole order

Try it

Work it out on paper. Write one answer on each line.

1 **In $6 + 3^2$, which should you do first?**

A. Find 3^2 **B.** Add $6 + 3$ **C.** Multiply 3×2

My answer _____

2 **What is $2 + 3 \times 4$?**

A. 20 **B.** 24 **C.** 14 **D.** 9

My answer _____

3 **What is $10 - 2^2$?**

A. 64 **B.** 6 **C.** 8

My answer _____

4 **What is 3×2^3?**

A. 18 **B.** 216 **C.** 12 **D.** 24

My answer _____

5 **Which expression shows "four more than 5 squared"?**

A. $4 + 5 \times 2$ **B.** 4×5^2 **C.** $4 + 5^2$ **D.** $(4 + 5)^2$

My answer _____

6 **What is $5 + 2 \times 3^2$?**

A. 63 **B.** 23 **C.** 41 **D.** 17

My answer _____

Talk about it

Which part of the expression do you evaluate first, and why?

Home mission

Imagine a ticket order: 3 tickets at $10 and 2 tickets at 2^2 dollars each. Ask your student to say the expression out loud, then the total. Which step comes first?

If we get stuck, ask

- Which stage comes first here?
- What does that exponent tell you to multiply?
- Did you multiply before you added?

Do it on a screen

Scan or type the link. Same lesson, with hints.

eduwonderlab.com/lessons/6-4/homework.html

How did it feel? (optional)

Tricky Getting there Got it