Generate Equivalent Expressions

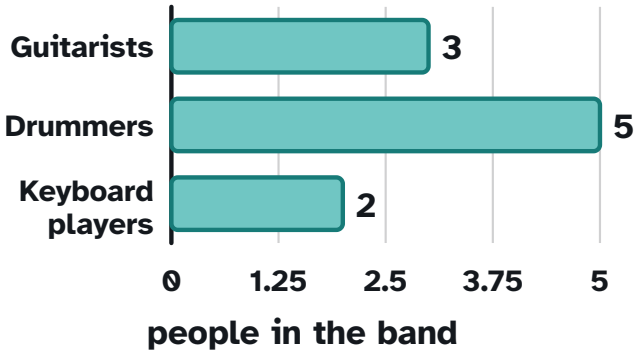
Use the order, grouping and identity properties to write equal expressions.

Name _____ **Date** _____

Tonight's spark

A rec-center band has 3 guitarists, 5 drummers and 2 keyboard players. Ana counts 3 + 5 + 2. Ben counts 5 + 3 + 2. Will they get the same total?

Guess first: will Ana and Ben match? Is the band more or less than 8 people?



Our class model: the order and grouping rules

Try it

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

1 **Which equation shows the Commutative Property?**

A. (7 + 4) + 2 = 7 + (4 + 2) **B.** 7 + 4 = 4 + 7 **C.** 7 + 0 = 7 **D.** 7 – 4 = 4 – 7

My answer _____

2 **What number makes this true? 12 + 9 = 9 + ___**

A. 12 **B.** 21 **C.** 3 **D.** 9

My answer _____

3 **Which number makes this true? 48 + ___ = 48**

A. 1 **B.** 48 **C.** 96 **D.** 0

My answer _____

4 **Which property is shown? (3 + 8) + 2 = 3 + (8 + 2)**

A. Commutative Property **B.** Identity Property **C.** Associative Property

D. Distributive Property

My answer _____

5 **Use the properties to find 5 + 18 + 15. What is the total?**

A. 23 **B.** 38 **C.** 33

My answer _____

6 **Use the properties to find 4 × 9 × 5. What is the product?**

A. 180 **B.** 36 **C.** 45 **D.** 18

My answer _____

Talk about it

Which property did you use: did you change the order (Commutative) or the grouping (Associative)? Did the total change?

Home mission

Line up 3 forks, 5 spoons and 2 cups. Count them 3 + 5 + 2. Now start with the spoons. Does the total change? Then try 5 – 2 and 2 – 5 with spoons and cups. Which order works?

If we get stuck, ask

- Did the order of the numbers change, or did the parentheses move?
- Let's add both ways and see if we get the same total.
- Is this adding or multiplying? The properties only work for those two.

Do it on a screen

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

eduwonderlab.com/lessons/6-8/homework.html

How did it feel? (optional)

Tricky Getting there Got it