LESSON MAKER PRO

Expression Shortcuts

Rewrite expressions to make the math easier.

GRADE 5 · 5.A.2.1

5.A.2.1 "Generate equivalent numerical expressions and solve problems using number sense involving whole numbers by applying the commutative property, associative property, distributive property, and order of operations (excluding exponents)."

NAME _____ DATE _____

MAKE AN EASIER EXPRESSION

The distributive property lets you multiply a number by each part inside parentheses. To find an expression's value, calculate inside parentheses first, then multiply, then add or subtract from left to right. You can also change the order or grouping of numbers you add or multiply to make easier pairs.

WORKED EXAMPLE

Rewrite 7 × (30 + 2) - 5 using the distributive property, then find its value.

1. Distribute: 7 × 30 + 7 × 2 - 5
2. Multiply: 210 + 14 - 5
3. Add and subtract: 224 - 5 = 219

Answer: 7 × 30 + 7 × 2 - 5 = 219

PRACTICE 6 problems

1 Rewrite 8 × (10 + 3) using the distributive property, then find its value.

ANSWER _____

2 Rewrite 13 × 11 + 13 × 9 as one multiplication expression, then find its value.

ANSWER _____

3 Rewrite 16 + 38 + 34 to make a pair that adds to 50, then find the sum.

ANSWER _____

4 Find the value of 48 - 3 × (11 + 1).

ANSWER _____

5 Which expression has the same value as 12 × (15 - 3): 12 × 15 - 3 or 12 × 15 - 12 × 3? Find its value.

ANSWER _____

6 Rewrite 25 × 16 × 4 to make an easy pair to multiply, then find its value.

ANSWER _____

APPLY IT Show your work

1 At a game fair, each of 18 players earns 11 points in round one and 9 points in round two. Write one multiplication expression for all the points earned, then find the total.

WORK SPACE

ANSWER _____

2 A gaming club makes 14 prize packs with 13 stickers and 8 trading cards in each pack. The club also gives away 16 single stickers. Write an expression for all the items given away, then find the total.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A team makes 15 craft kits with 12 beads and 8 buttons in each kit. Someone writes 15 × 12 + 8 to count all the pieces. Is that expression correct? Write the correct expression and total, then explain the error in one sentence.

WORK SPACE AND ANSWER

ANSWER KEY

Expression Shortcuts

GRADE 5 · 5.A.2.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Rewrite 8 × (10 + 3) using the distributive property, then find its value.	**8 × 10 + 8 × 3 = 104**
2	Rewrite 13 × 11 + 13 × 9 as one multiplication expression, then find its value.	**13 × (11 + 9) = 260**
3	Rewrite 16 + 38 + 34 to make a pair that adds to 50, then find the sum.	**(16 + 34) + 38 = 88**
4	Find the value of 48 - 3 × (11 + 1).	**12**
5	Which expression has the same value as 12 × (15 - 3): 12 × 15 - 3 or 12 × 15 - 12 × 3? Find its value.	**12 × 15 - 12 × 3 = 144**
6	Rewrite 25 × 16 × 4 to make an easy pair to multiply, then find its value.	**(25 × 4) × 16 = 1,600**

PART 2 · APPLY IT

1. **18 × (11 + 9) = 360 points** Each player earns 20 points. Multiply 18 × 20 to get 360 points.
2. **14 × (13 + 8) + 16 = 310 items** Each pack has 21 items, so the packs contain 14 × 21 = 294 items. Add the 16 single stickers to get 310.

CHALLENGE

No. 15 × (12 + 8) = 300 pieces. Each kit has 8 buttons, so the 8 must also be multiplied by 15.

Accept equivalent expressions with the correct values. For the challenge, the explanation must show that both the beads and the buttons are in every kit.