

Expression Detectives

Use operation rules to find values and check equal expressions.

GRADE 5 • MA.5.AR.2

MA.5.AR.2 "Demonstrate an understanding of equality, the order of operations and equivalent numerical expressions."

NAME _____

DATE _____

ORDER MATTERS

The equal sign means that two amounts have the same value. Work inside parentheses first. Then multiply or divide from left to right, and add or subtract from left to right.

WORKED EXAMPLE

$$36 \div (7 - 3)$$

1. Work inside the parentheses: $7 - 3 = 4$.

2. Divide: $36 \div 4 = 9$.

Answer: 9

PRACTICE 6 problems

1 $8 + 6 \times 5 = \underline{\hspace{2cm}}$

ANSWER _____

2 $(18 - 12) \times 5 = \underline{\hspace{2cm}}$

ANSWER _____

3 $56 \div 8 + 11 = \underline{\hspace{2cm}}$

ANSWER _____

4 Is $25 + 19$ equal to 2×22 ?

ANSWER _____

5 Which expression is equal to 42? A. $48 - 5$ B. $(16 + 5) \times 2$ C. $60 \div 2 + 11$

ANSWER _____

6 $18 + 22 = 8 \times \underline{\hspace{2cm}}$

ANSWER _____

APPLY IT Show your work

- 1** Mia earns 6 points for each of 8 game levels she completes. Then she earns 11 bonus points. How many points does Mia earn altogether?

WORK SPACE

ANSWER _____

- 2** A club shares 54 stickers equally among 6 prize bags. Then the club adds 12 more stickers to each bag. How many stickers are in each prize bag?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Fill in the blank to make the equation true: $(\underline{\hspace{1cm}} + 15) * 8 = 200$

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	$8 + 6 * 5 = \underline{\hspace{1cm}}$	38
2	$(18 - 12) * 5 = \underline{\hspace{1cm}}$	30
3	$56 / 8 + 11 = \underline{\hspace{1cm}}$	18
4	Is $25 + 19$ equal to $2 * 22$?	Yes, both equal 44.
5	Which expression is equal to 42? A. $48 - 5$ B. $(16 + 5) * 2$ C. $60 / 2 + 11$	B. $(16 + 5) * 2$
6	$18 + 22 = 8 * \underline{\hspace{1cm}}$	5

PART 2 • APPLY IT

1. **59 points** Multiply 6 by 8 to find the points from the levels. Add 11 bonus points: $6 * 8 + 11 = 59$.
2. **21 stickers** Divide 54 by 6 to find the stickers first placed in each bag. Add 12: $54 / 6 + 12 = 21$.

CHALLENGE

10

Accept equivalent numerical forms that follow the correct order of operations. For the challenge, the blank is 10 because $200 / 8 = 25$ and $25 - 15 = 10$.