LESSON MAKER PRO

Equation Detectives

Turn each story into a math sentence.

GRADE 5 · 5.PFA.2.b

5.PFA.2.b "Write an equation (with a single variable that represents an unknown quantity and one operation) from a contextual situation, using addition, subtraction, multiplication, or division."

NAME _____ **DATE** _____

EQUATION DETECTIVES

A blank stands for the quantity you do not know. Read the story closely, then choose the one operation that matches what happens in the story.

WORKED EXAMPLE

A library has 27 new books and gets some more. Now it has 65 new books. Write an equation.

1. Let ___ stand for the number of books the library received.
2. The library started with 27 books and added more books.
3. Write the equation: 27 + ___ = 65.

Answer: 27 + ___ = 65

PRACTICE 6 problems

1 A 54-page comic has 19 pages left to read. Write an equation for the number of pages already read.

ANSWER _____

2 Eight packs have 72 trading cards altogether. Write an equation for the number of cards in each pack.

ANSWER _____

3 Ninety-six game tokens are shared equally among 6 teams. Write an equation for the number of tokens each team gets.

ANSWER _____

4 A playlist has 34 songs. Some songs are added, and now it has 81 songs. Write an equation for the number of songs added.

ANSWER _____

5 Seven identical mystery boxes hold 49 mini erasers altogether. Write an equation for the number of erasers in each box.

ANSWER _____

6 A player begins with 63 energy points and spends some. The player has 25 points left. Write an equation for the points spent.

ANSWER _____

APPLY IT Show your work

1 Nine friends bring the same number of canned foods for a food drive. Together, they bring 117 canned foods. Write an equation for the number of canned foods each friend brings.

WORK SPACE

ANSWER _____

2 A video game gives 144 coins equally across 12 levels. Write an equation for the number of coins earned in each level.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A class splits 135 photos equally among 15 albums. Write two different one-operation equations for the number of photos in each album. Then explain why both equations match the story.

WORK SPACE AND ANSWER

ANSWER KEY

Equation Detectives

GRADE 5 · 5.PFA.2.b

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A 54-page comic has 19 pages left to read. Write an equation for the number of pages already read.	**54 - ___ = 19**
2	Eight packs have 72 trading cards altogether. Write an equation for the number of cards in each pack.	**8 * ___ = 72**
3	Ninety-six game tokens are shared equally among 6 teams. Write an equation for the number of tokens each team gets.	**96 / 6 = ___**
4	A playlist has 34 songs. Some songs are added, and now it has 81 songs. Write an equation for the number of songs added.	**34 + ___ = 81**
5	Seven identical mystery boxes hold 49 mini erasers altogether. Write an equation for the number of erasers in each box.	**7 * ___ = 49**
6	A player begins with 63 energy points and spends some. The player has 25 points left. Write an equation for the points spent.	**63 - ___ = 25**

PART 2 · APPLY IT

1. **9 * ___ = 117** The unknown is the number of canned foods one friend brings. Nine equal groups make 117, so 9 * ___ = 117.
2. **144 / 12 = ___** The unknown is the number of coins for one level. Divide the total coins by 12 levels, so 144 / 12 = ___.

CHALLENGE

15 * ___ = 135; 135 / 15 = ___. Both blanks mean the number of photos in each album. The first equation uses equal groups, and the second equation shares the total.

Accept equivalent one-operation equations when the blank represents the quantity named in the story. For example, ___ + 34 = 81 and 81 - 34 = ___ both correctly show the number of songs added.