LESSON MAKER PRO

Mystery Number Missions

Use a blank to show what you do not know yet.

GRADE 5 · 5.PFA.2

5.PFA.2 "The student will investigate and use variables in contextual problems. Describe the concept of a variable (presented as a box, letter, or other symbol) as a representation of an unknown quantity..."

NAME _____ **DATE** _____

UNKNOWNS IN EQUATIONS

A blank, such as ___, can stand for an unknown quantity. Use the situation to choose an operation, then write an equation with an equals sign. Solve the equation to find the number the blank represents.

WORKED EXAMPLE

A craft kit has 31 beads. Thirteen beads are blue. Write an equation to find how many beads are not blue, then solve.

1. Let ___ be the number of beads that are not blue.
2. Write 13 + ___ = 31.
3. Subtract 13 from 31.
4. ___ = 18.

Answer: 13 + ___ = 31; ___ = 18

PRACTICE 6 problems

1 What number does the blank represent? 6 + ___ = 14

ANSWER _____

2 Write an expression for 12 fewer than a number.

ANSWER _____

3 A game costs $20. Jordan has $8. Write an equation to show how much more money Jordan needs.

ANSWER _____

4 Solve: ___ - 7 = 11

ANSWER _____

5 Write an expression for 4 times a number.

ANSWER _____

6 Write a word problem that matches ___ / 5 = 3.

ANSWER _____

APPLY IT Show your work

1 Nia has 15 reward points in a reading app. She needs 32 points to earn a new avatar. Write an equation and solve to find how many more points Nia needs.

WORK SPACE

ANSWER _____

2 The robotics club puts 42 batteries into 6 equal containers. Write an equation and solve to find how many batteries are in each container.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A card game has 4 equal packs with 28 cards altogether. Which equation matches the situation, 4 * ___ = 28 or ___ + 4 = 28? Solve the matching equation and explain why it fits.

WORK SPACE AND ANSWER

ANSWER KEY

Mystery Number Missions

GRADE 5 · 5.PFA.2

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	What number does the blank represent? 6 + ___ = 14	**8**
2	Write an expression for 12 fewer than a number.	**___ - 12**
3	A game costs $20. Jordan has $8. Write an equation to show how much more money Jordan needs.	**8 + ___ = 20**
4	Solve: ___ - 7 = 11	**18**
5	Write an expression for 4 times a number.	**4 * ___**
6	Write a word problem that matches ___ / 5 = 3.	**Sample answer: A teacher puts the same number of pencils into 5 cups. Each cup has 3 pencils. How many pencils does the teacher use altogether?**

PART 2 · APPLY IT

1. **15 + ___ = 32; ___ = 17** The unknown is the number of points Nia still needs. Subtract 15 from 32 to get 17.
2. **6 * ___ = 42; ___ = 7** The unknown is the number of batteries in one container. Divide 42 by 6 to get 7.

CHALLENGE

4 * ___ = 28; ___ = 7. The cards are in 4 equal packs, so 4 times the number in each pack equals 28.

Accept equivalent equation forms when they show the same relationship, such as ___ + 15 = 32. For the created word problem, accept any realistic situation in which an unknown total divided by 5 equals 3.