Name_____ Date_____ Period_____

LESSON 8-1 · SESSION 1 · PRACTICE · FORM B

Equations and Solutions

Learning target – I can check whether a value is a solution of an equation by substituting it. · 6.EE.B.5

REMEMBER

- An **equation** says two amounts are equal: $x + 3 = 10$.
- To test a value, **substitute** it for the variable. Then do the math.
- If both sides match, the value is a **solution**. $4k = 20$ with $k = 5$: $4 \times 5 = 20$, true.

WORKED EXAMPLE

A basket has b apples. You add 9 more and have 15. Is $b = 6$ a solution of $b + 9 = 15$?

Step 1 Substitute: replace b with 6 to get $6 + 9$.

Step 2 Add: $6 + 9 = 15$.

Step 3 Compare: $15 = 15$, so the equation is true.

Answer **Yes, $b = 6$ is a solution.**

WORDS **equation** *(ecuación)* · **solution** *(solución)* · **substitute** *(sustituir)*

PRACTICE

show your work · label units

1. Substitute the value. Write **T** for true or **F** for false.

a. $s - 12 = 30$ $(s = 42)$ ___

b. $6r = 48$ $(r = 9)$ ___

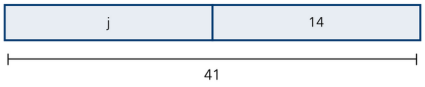
c. $p + 16 = 51$ $(p = 35)$ ___

d. $3k = 27$ $(k = 24)$ ___

e. $n - 5 = 4$ $(n = 9)$ ___

f. $m + 19 = 44$ $(m = 25)$ ___

2. **Juice Box Cooler.** A cooler holds j juice boxes. The coach adds 14 more. Now there are 41. The tape diagram shows $j + 14 = 41$.



a. Test $j = 27$. _____

b. Test $j = 25$. _____

c. Which value is the solution? _____

3. **Pencil Packs.** Tanisha wrote $8p = 104$ for packs of pencils. Find the solution. Prove it.

Show your work.

p =_____

4. Bake Sale. Luis wrote $c - 18 = 47$ for cupcakes left. Is $c = 65$ a solution? Check.

Hint *Replace c with 65. Do both sides match?*

Show your work.

Yes or no_____

5. Equal Teams. Coach writes $5t = 35$ for equal teams. Ray says $t = 6$. Is Ray correct? Check.

Hint *5t means 5 × t.*

Show your work.

Yes or no_____

6. Library Fine. Ana owes a library fine. After she pays $3, she still owes $14. Write an equation using f for the starting fine. Then find f by testing values.

Hint *Start minus what she paid leaves what she owes.*

Show your work.

Equation; f_____

7. Game Tokens. Deshawn wrote $7g = 56$ for the games he can play with 56 tokens. He says $g = 9$. Check his value. Then find the real solution.

Hint *Substitute his value first. Then try the next number.*

Show your work.

g =_____

8. Number Puzzle. A puzzle reads: a number plus 19 equals 52.

a. Write the equation using n. _____

b. Test $n = 33$. Is it the solution? _____

c. How is testing a value different from solving? _____

FIND THE ERROR

explain the mistake, then fix it

9. Devonte's Work. To check whether $x = 15$ is a solution of $x + 25 = 45$, Devonte wrote $15 + 25 = 40$. He said that is close enough, so 15 is a solution. Explain his mistake.

_____

_____

_____

TEST PRACTICE

choose the best answer

10. Is $x = 8$ a solution of $x + 7 = 15$?

A yes **B** no **C** only if $x = 7$ **D** cannot tell

11. Is $m = 9$ a solution of $4m = 32$?

A yes **B** no **C** only if $m = 4$ **D** cannot tell

SELF-CHECK CODE *find your answer · copy its letter into that problem's box · spell a math word*

13 A	55 Q	17 L	33 E	49 J	8 U	27 V	71 X	832 Z

#2c	#3	#6	#7	#8b

CHECK YOURSELF	☐ I can do this on my own	☐ I need a little help	☐ I have a question about #___