Name_____ Date_____ Period_____

**LESSON 9-3 · SESSION 2 · PRACTICE · FORM B**

# Equations from Situations

Learning target – I can write an equation from a described situation and identify its variables. · 6.EE.C.9

**REMEMBER**

- Say what each letter means. Then **multiply** the input by the rate for one unit.
- **Add** a starting amount or fee only if the story gives one: \$5 plus \$2 each is $c = 2n + 5$.
- If one person is always 3 years older, **add**: $a = b + 3$.

**WORKED EXAMPLE**

A pet sitter earns \$9 each day. Write an equation for dollars $e$ earned in $d$ days.

**Step 1** Define: $d$ = days, $e$ = dollars earned.

**Step 2** Rate: \$9 for each day, so $e = 9d$.

**Step 3** Test $d = 5$: $e = 9 \times 5 = 45$.

**Answer** **$e = 9d$; 5 days earns \$45**

**WORDS** **unit rate** *(tasa unitaria)* · **multiplicative rule** *(regla multiplicativa)* · **additive rule** *(regla aditiva)*

## PRACTICE

*show your work · label units*

**1.** Write an equation for each situation.

**a.** \$12 per hour; cost $c$ for $h$ hours: $c =$ _____

**b.** \$15 per ticket; cost $c$ for $t$ tickets: $c =$ _____

**c.** Leo is 4 years younger than his sister. Leo's age $l$ when she is $s$: $l =$ _____

**d.** \$30 fee plus \$8 an hour; cost $c$ for $h$ hours: $c =$ _____

**2.** **Kayak Rental.** A lake shop rents kayaks for \$11 each hour.

**a.** Name the independent and dependent variables and their letters. _____

**b.** Write the equation: $c =$ _____

**c.** Find the cost for 7 hours. _____ dollars

**3.** **Car Detailing.** Zuri earns \$21 for every car she details. Write an equation for her earnings $e$ for $n$ cars. Find her earnings for 7 cars.

**Hint** *The pay repeats for every job, so multiply.*

*Show your work.*

**Answer**_____ dollars

**4.** **Older Cousin.** Marcus is always 5 years older than his cousin. Write an equation for Marcus's age $m$ when his cousin is $c$. How old is Marcus when his cousin is 12?

**Hint** *The age gap stays the same, so add.*

*Show your work.*

**Answer**_____ years

**5. Field Trip Vans.** Each van seats 14 riders. Write an equation for the riders $r$ in $v$ vans. Find the riders in 8 vans.

**Hint** *Name what the school chooses, then multiply.*

*Show your work.*

**Answer**_____ riders

**6. Two Different Rules.** Graph A passes through (1, 3), (2, 6), (3, 9). Graph B passes through (1, 3), (2, 4), (3, 5). Write an equation for each. How are the rules different?

**Hint** *Is y a multiple of x, or x plus a number?*

*Show your work.*

**Equations**_____

**7. Summer Savings.** Nadia saves $35 from every paycheck. She had nothing saved before.

**Hint** *The starting amount is added once.*

**a.** Write an equation for her savings $s$ after $p$ paychecks. _____

**b.** Suppose she had $50 saved before. Write the new equation. _____

**c.** Use the new equation to find the savings after 6 paychecks. _____ dollars

**8. Bounce House.** A bounce house costs a $60 delivery fee plus $25 an hour. Write an equation for the cost $c$ after $h$ hours. Find the cost for 4 hours.

*Show your work.*

**Answer**_____ dollars

## FIND THE ERROR

*explain the mistake, then fix it*

**9. Leila's Work.** Stickers cost $3 each. Leila wrote $c = n + 3$ for the cost $c$ of $n$ stickers. Explain her mistake and fix the equation.

_____

_____

_____

## TEST PRACTICE

*choose the best answer*

**10.** At $14 per item, the cost $c$ for $n$ items is –

**A** $c = n + 14$ **B** $n = 14c$ **C** $c = 14n$ **D** $c = 14$

**11.** A $15 fee plus $6 an hour gives –

**A** $c = 6h + 15$ **B** $c = 15h + 6$ **C** $c = 21h$ **D** $c = 6h$

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

| 112<br>V | 77<br>S | 260<br>E | 160<br>D | 147<br>O | 17<br>L | 18<br>X | 340<br>Z | 60<br>Q |
|---|---|---|---|---|---|---|---|---|

| #2c | #3 | #4 | #5 | #7c | #8 |
|---|---|---|---|---|---|
| | | | | | |

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