NAME: KEY Period: _____

Short Answer

1. Simplify the expression.
$6 - 3(2 + 4v) + 10$

+1

$6 - 3(2+4v) + 10$
$6 - 6 - 12v + 10$
0
$-12v + 10$

2. A shirt costs $18.73.

Part A: How much change should you receive if you give the cashier $24.72? Show your work.

+1

COST: $18.73 → PAID $24.72

$24.72 - 18.73 = 5.99$

• YOU SHOULD RECEIVE $5.99

Part B: How much change should you receive if the shirt is on sale for only $14.46 and you give the cashier $24.72? Show your work.

+1

COST: $14.46 → PAID: $24.72

$24.72 - 14.46 = 10.26$

• YOU SHOULD RECEIVE: $10.26

3. The daytime thermometer reading of 71°F is 18°F lower than the daytime temperature required for the opening of Samantha's neighborhood outdoor pool. Does the pool open when the temperature is 53°F or 89°F? Use substitution of both numbers in an equation to prove the answer.

+1

CURRENT TEMPERATURE: 71°F IT MUST BE 18°F WARMER: $71 + 18 = 89°F$

4. By dividing the number of houses in Antonio's subdivision by 6 and adding 9, you can find the number of houses in Hector's subdivision. If Hector has 19 houses in his subdivision, how many houses are in Antonio's subdivision?

+1

X = NUMBER OF HOUSES ANTONIO'S SUBDIVISION

HECTOR HAS 19 HOUSES

$\frac{X}{6} + 9 = 19$
$-9 \quad -9$
0

$(6)\frac{X}{6} = 10(6)$

$X = 60$

• THERE ARE 60 HOUSES IN ANTONIO'S SUBDIVISION

5. If you double the number of times Elizabeth has cooked dinner for her family and then add 7, you get the number of times her sister Joy has cooked the family's dinner. If Joy has cooked the family's dinner 23 times, how many times has Elizabeth cooked dinner?

+1

X = ELIZABETH TIMES COOKING DINNER.

$2x + 7 = 23$

$-7 \quad -7$

$\frac{2x}{2} = \frac{16}{2}$

$x = 8$

- ELIZABETH COOKS 8 TIMES

ESSAY:

6. **An electrician charges $155 for a service call and $45 for each hour of work after the first hour.**

Let *h* represent the hours the electrician works on a service call that exceeds 1 hour. Danae wrote the expression 155 + (h – 1) (45) to represent the cost of hiring this electrician. Juana wrote the expression 110 + 45h to represent the cost.

Part A: Are these expressions equivalent? Justify your answer.

DANAE'S EXPRESSION

$155 + (h-1)(45)$

$155 + 45h - 45$

$110 + 45h$

JUANA'S EXPRESSION

$110 + 45h$

* SINCE THEY BOTH SIMPLIFY TO THE SAME EXPRESSION THEY ARE EQUIVALENT.

Part B: Explain some of the strengths and weaknesses of each expression. Which one seems like a clearer representation of the electrician's billing charge? Which would you rather use to calculate the charge for a job?

ANSWERS MAY VARY, COMPLETE ANSWER IS NEEDED.

+3