Name: Key

DISCRETE

Date: 5/9/18

TROICI/GOSSE

LESSON #6: SOLVING TWO-STEP EQUATIONS

Do Now: Solve the following equations

1) $x + 4 = 7$ $-4 \quad -4$ $x = 3$	2) $3 + x = 5$ $-3 \quad -3$ $x = 2$	3) $\frac{4x}{4} = \frac{16}{4}$ $x = 4$	4) $2\frac{x}{2} = 5 \cdot 2$ $x = 10$

STEPS TO ISOLATE THE VARIABLE IN TWO-STEP EQUATIONS:

1. Take care of any addition or subtraction
2. Take care of any multiplying or dividing

Example 1:

$7x + 15 = 71$

$-15 \quad -15$

$7x = 56$

$x = 8$

Check

$7(8) + 15 = 71$

$71 = 71$ ✓

Example 2:

$\frac{a}{4} - 9 = 51$

$+9 \quad +9$

$\frac{a}{4} = 60.4$

$a = 240$

Check

$\frac{240}{4} - 9 = 51$

$51 = 51$ ✓

Directions: Solve and Check the following equations.

1) $9b + 8 = 53$

$-8 \quad -8$

$\frac{9b}{9} = \frac{45}{9}$

$b = 5$

Check

$9(5) + 8 = 53$

$53 = 53$ ✓

5) $18 = 4a + 10$

$-10 \quad -10$

$\frac{8}{4} = \frac{4a}{4}$

$a = 2$

Check

$18 = 4(2) + 10$

$18 = 18$ ✓

3) $14 = 5x - 6$

$+6 \quad +6$

$\frac{20}{5} = \frac{5x}{5}$

$x = 4$

Check

$14 = 5(4) - 6$

$14 = 14$ ✓

2) $5 - 9x = 95$

$-5 \quad -5$

$\frac{-9x}{-9} = \frac{90}{-9}$

$x = -10$

Check

$5 - 9(-10) = 95$

$95 = 95$ ✓

4) $10 + 5a = -25$

$-10 \quad -10$

$\frac{5a}{5} = \frac{-35}{5}$

$a = -7$

Check

$10 + 5(-7) = -25$

$-25 = -25$ ✓

6) $\frac{1}{2}x - 6 = -10$

$+6 \quad +6$

$\frac{\frac{1}{2}x}{\frac{1}{2}} = \frac{-4}{\frac{1}{2}}$

$x = -8$

Check

$\frac{1}{2}(-8) - 6 = -10$

$-10 = -10$ ✓

7) $4x - 7 = 37$

$+7 \quad +7$

$\frac{4x}{4} = \frac{44}{4}$

$x = 11$

Check

$4(11) - 7 = 37$

$37 = 37$ ✓

8) $8 - 9y = 35$

$-8 \quad -8$

$\frac{-9y}{-9} = \frac{27}{-9}$

$y = -3$

Check

$8 - 9(-3) = 35$

$35 = 35$ ✓

9) $3n - 9 = 9$

$+9 \quad +9$

$\frac{3n}{3} = \frac{18}{3}$

$n = 6$

Check

$3(6) - 9 = 9$

$9 = 9$ ✓

10) $\frac{m}{3} + 7 = 10$

$-7 \quad -7$

$3 \cdot \frac{m}{3} = 3 \cdot 3$

$m = 9$

Check

$\frac{(9)}{3} + 7 = 10$

$10 = 10$ ✓

11) Jamie was solving the following equation. Her teacher told her she did the problem incorrectly. Below is her work.

3x + 6 = 21

$\frac{3x}{3} + 6 = \frac{21}{3}$

x + 6 = 7
- 6 -6
x = 1

Part A
Solve the equation correctly. Check your answer.
Show your work.

3x + 6 = 21
-6 -6
$\frac{3x}{3} = \frac{15}{3}$
$x = 5$

Answer: x = 5

Part B
On the lines below, clearly explain where Jamie made her mistake.

she divided before she subtracted

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LESSON #6: EXIT TICKET

1) $2n - 5 = 17$ +5 +5 $\frac{2n}{2} = \frac{22}{2}$ $n = 11$	2) $9 + 2m = 35$ -9 -9 $\frac{2m}{2} = \frac{26}{2}$ $m = 13$
3) $-9 + \frac{m}{5} = 2$ +9 +9 $5 \cdot \frac{m}{5} = 11 \cdot 5$ $m = 55$	4) $9 = \frac{x}{4} + 6$ -6 -6 $4 \cdot 3 = \frac{x}{4} \cdot 4$ $12 = x$