Algebra 1 Mathematician: _____
Unit 2 Solving Linear Equations Period:_____
2.1b – Solving Two Step Equations

## *LEVEL: EMERGING*

Directions: Solve the equation. Check your solution.

1) $3x + 7 = 19$

2) $7d - 1 = 13$

3) $10 = 7 - m$

4) $\frac{a}{3} + 4 = 6$

5) $\frac{b}{2} - 9 = 11$

6) $7 = \frac{5}{6}c - 8$

7) $8y + 3y = 44$

8) $11x - 9x = 18$

9) $-32 = -5k + 13k$

10) What is the first step you would take to solve the equation $6 + \frac{x}{3} = -2$?

11) *Describe* and correct the error in solving the equation.

$$\begin{aligned} \mathbf{7 - 3x} &= \mathbf{12} \\ \mathbf{4x} &= \mathbf{12} \\ \mathbf{x} &= \mathbf{3} \end{aligned}$$

## *LEVEL: PROFICIENT*

Directions: Solve the equation. Check your solution.

12) $5.6 = 1.1p + 1.2$

13) $1.2j - 4.3 = 1.7$

14) $14.4m - 5.1 = 2.1$

15) $\frac{c}{5.3} + 8.3 = 11.3$

16) $3.2 + \frac{x}{2.5} = 4.6$

17) $-1.2 = \frac{z}{4.6} - 2.7$

Answers:
1) $x = 4$ 2) $d = 2$ 3) $m = -3$ 4) $a = 6$ 5) $b = 40$ 6) $c = 18$ 7) $y = 4$ 8) $x = 9$
9) $k = -4$ 10) Subtract 6 from each side 11) Unlike terms were combined; $-3x = 5, x = -\frac{5}{3}$ 12) $p = 4$ 13) $j = 5$ 14) $m = .5$
15) $c = 15.9$ 16) $x = 3.5$ 17) $z = 6.9$

## *LEVEL: PROFICIENT (Cont.)*

Directions: Write an equation for the function described. Then, find the input.

*18)* The output of a function is 7 more than 3 times the input. Find the input when the output is -8.

*19)* The output of a function is 9 less than 10 times the input. Find the input when the output is 11.

## *LEVEL: MASTERY*

Directions: Write an equation to represent the situation then solve.

20) A dance academy charges $24 per class and a one-time registration fee of $15. A student paid a total of $687 to the academy. Find the number of classes the students took.

21) A guitar store offers a finance plan where you give a $50 down payment on a guitar and pay the remaining balance in 6 equal monthly payments. You have $50 dollars and you can afford to pay up to $90 per month for a guitar. Can you afford a guitar that costs $542? *EXPLAIN in complete sentences.*

Answers:
18) $y = 3x + 7; x = -5$ 19) $y = 10x - 9; x = 2$
20) 28 *classes*
21) Yes; the equation $\$542 = \$50 + 6x$ gives the monthly cost of the guitar that costs $542. Solving the equation gives $x = \$82$ per month, so you can afford the guitar.