Warm-Up 9/15/17

Solve the following equations

1. $\frac{x-4}{3} = 7$

2. $\frac{x+7}{2} = 5$

① $3 \cdot \frac{x-4}{3} = 7 \cdot 3$

$x - 4 = 21$

$+4 \quad +4$

$x = 25$

② $2 \cdot \frac{x+7}{2} = 5 \cdot 2$

$x + 7 = 10$

$-7 \quad -7$

$x = 3$

Home Work Due Tomorrow!

Day 2 – Creating and Solving Equations Practice

Write an equation that can be used to model the following problem. Finally, use your equation to SOLVE the problem.

1. Find three consecutive integers whose sum is 171.

$x+(x+1)+(x+2)=171$

Let the 1st # = x

2nd # = x+1 = 57

3rd # = x+2 = 58

$3x+3=171$

$-3 \quad -3$

$3x=168$

$\frac{3x}{3}=\frac{168}{3}$

$x=56$

2. The sum of 3 consecutive even numbers add up to 1002. Find the three numbers.

Let the 1st # = x

2nd # = x+2

3rd # = x+4

$x+(x+2)+(x+4)=1002$

$3x+6=1002$

$-6 \quad -6$

$\frac{3x}{3}=\frac{996}{3}$

$x=332$

2nd # = 334

3rd # 336

3. The sides of a triangular birdcage are consecutive integers. If the perimeter is 114 centimeters, what is the length of each side?

1st = x

2nd = x+1

3rd = x+2

$x+x+1+x+2=114$

$3x+3=114$

$-3 \quad -3$

$3x=111$

4. Alex has twice as much money as Jennifer. Jennifer has $6 less than Shannon. Together they have $54. How much money does each person have?

Shannon : x

Jennifer : x−6

Alex : 2(x−6)

$x+(x-6)+2(x-6)$

$2x-6+2x-12=54$

5. Four friends are trading basketball cards. Bill gets 3 cards less than Isaac. Michael gets 7 more cards than Bill. Shawn gets twice as many as Michael. How many cards does each person get if there are a total of 74 cards?

Isaac: x

Bill: x−3

Michael: (x−3)+7 = x+4

Shawn: 2(x+4) = 2x+8

$x+x-3+x+4+2x+8=74$

Module 4: Equations & Inequalities. 9/15/17

Standard:

MFAEI1: Create and solve equations and inequalities in one variable and justify solutions.

Essential Question 9/15/17

- How can I create and solve equations from real life situations?

Objective:

- To master solving one-step and two-step equations with one variable.

Creating and Solving Equations

Guided Practice 1 #1 - 10

Day 2 – Creating and Solving Equations Practice

Write an equation that models the situation. You do NOT have to solve!

1. Five times the sum of e and 3 is equal to -5.

$5(e+3) = -5$

2. Jamie buys 9 CDs at same price per CD and a cassette tape for $9.45. His total bill was $118.89.

$9c + 9.45 = 118.89$

Define a variable for each problem below. Then write an equation that can be used to model the following problem. Finally, use your equation to SOLVE the problem.

3. At a concert, Nabila purchased three t-shirts and a concert program that cost $15. In total, Nabila spent $90. Find the cost of a single t-shirt if they all had the same price.

Variables: T: Total cost of t-shirts C: Cost of one t-shirt.

Model: $3c + 15 = 90$

.03

4. Oberon Cell Phone Company advertises service for 3 cents per minute plus a monthly fee of $29.95. If Parker's phone bill for October was $38.95, find the number of minutes he used.

M = # of minutes, t = total cost

Variables: _____

Model: .03m + 29.95 = 38.95

5. Jacqueline had $20 to spend on 7 raffle tickets. After purchasing them she had $6 left. How much did each raffle ticket cost?

Variables: c: cost per raffle ticket · t = total cost of tickets.

Model: $7c + 6 = 20$

6. An online retailer charges $6.99 plus $0.55 per pound to ship electronic purchases. How many pounds is a DVD player for which the shipping charge is $11.94?

Variables: p = # of pounds T = total cost of shipping

Model: $0.55p + 6.99 = 11.94$

7. Savannah bought a laptop for $500. It was marked $50 off because it was out of the box and slightly scratched. She also got a 25% student discount, which was taken off the original price. What was the original price of the laptop?

Variables: X = original price

Model: $X - 50 - 0.25x = 500$

$X - 0.25x - 50 = 500$

8. The zoo offers special admission rates for large groups of visitors. The zoo charges $7.50 admission for the first visitor and $5.50 for each additional visitor in the group. Write an equation for the total cost of admission in terms of the number of visitors. How much is admission for a group of 8 visitors?

Variables: v = # of visitors t = total cost.

Model: $7.50 + 5.50(v-1) = t$

9. The jewelry store has a special on shirts. If you purchase 2 shirts for $65, each additional shirt is $24.99. Write an equation that represents that total cost of shirts based on the number of shirts purchased. What is the total cost of purchasing 4 shirts?

Variables: S = # of shirts ; t = total cost

Model: $65 + 24.99(s - 2)$

$65 + 24.99(s - 2) = t$

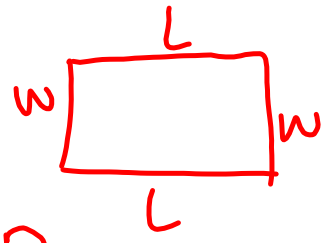
10. The width of a rectangle is 5 feet less than the length. The perimeter is 62. Find the length and width of the rectangle.

W = width ; L = length

Variables: _____

Model: $2(L+W) = P$

W: $L-5 = 18-5 = 13$



$P = L+L+W+W$

$P = 2L+2W$

$P = 2(L+W)$

$2(L+L-5) = 62$

$2(2L-5) = 62$

$4L - 10 = 62$

$+10 \quad +10$

$4L = 72$

$\frac{4L}{4} = \frac{72}{4}$

$L = 18$ $W = 13$