

1-9-19

Aim: SWBAT do their best on the quiz.

HW: None

Do Now: Correct hw

Pencil and calculator

### COMPLEX WORD PROBLEMS

1. Connor went to the county fair with \$22.50 in his pocket. He bought a hot dog and a drink for \$3.75 and wanted to spend the rest of his money on ride tickets which cost \$1.25 each.

a) Write an inequality to represent the total spent where  $r$  is the number of tickets purchased.

$$3.75 + 1.25r \leq 22.50$$

b) Connor wants to use this inequality to determine whether he can purchase 10 tickets. Use substitution to determine whether or not he will have enough money.

$$\begin{aligned} 3.75 + 1.25(10) &\stackrel{?}{\leq} 22.50 && \text{Connor has enough} \\ 3.75 + 12.50 &\stackrel{?}{\leq} 22.50 && \text{money for 10 tickets.} \\ 16.25 &\leq 22.50 && \text{True} \end{aligned}$$

c) What is the maximum number of tickets he can buy based upon the given information?

$$\begin{array}{r} 3.75 + 1.25r \leq 22.50 \\ -3.75 \qquad \qquad -3.75 \\ \hline 1.25r \leq 18.75 \\ \frac{1.25r}{1.25} \leq \frac{18.75}{1.25} \\ r \leq 15 \end{array} \quad \begin{array}{l} \text{At most, Connor} \\ \text{can purchase} \\ \text{15 tickets.} \end{array}$$

2. On a particular airline, checked bags can weigh no more than 50 pounds. Sally packed 32 pounds of clothes and five identical gifts in a suitcase that weighs 8 pounds.

a) Write an inequality to represent this situation.

b) What can be the maximum weight of each gift?

3. Shaggy earned \$7.55 per hour plus an additional \$100 in tips waiting tables on Saturday. He earned at least \$160 in all. Write an inequality and find the minimum number of hours, to the nearest hour, Shaggy worked on Saturday.

let  $x = \#$  of hours

$$7.55h + 100 \geq 160$$

$$\begin{array}{r} 7.55h + 100 \geq 160 \\ -100 \quad -100 \\ \hline 7.55h \geq 60 \end{array}$$

$$\begin{array}{r} 7.55h \geq 60 \\ 7.55 \quad 7.55 \\ \hline h \geq 7.947... \end{array}$$

Shaggy worked  
at least 8 hours

$$h \geq 7.947...$$

4. At most, Kyle can spend \$50 on sandwiches and chips for a picnic. He already bought chips for \$6 and will buy sandwiches that cost \$4.50 each. Write and solve an inequality to show how many sandwiches he can buy. Show your work and interpret your solution.

let  $x = \#$  of sandwiches

$$6 + 4.50x \leq 50$$

$$\begin{array}{r} 6 + 4.50x \leq 50 \\ -6 \quad -6 \\ \hline 4.50x \leq 44 \end{array}$$

$$\begin{array}{r} 4.50x \leq 44 \\ 4.50 \quad 4.50 \\ \hline x \leq 9.777... \end{array}$$

At most, Kyle  
can purchase 9  
sandwiches.

$$x \leq 9.777...$$

5. A youth summer camp has budgeted \$2000 for the campers to attend the carnival. The cost of each camper is \$17.95, which includes general admission to the carnival and 2 meals. The youth summer camp must also pay \$250 for the chaperones to attend the carnival and \$350 for transportation to and from the carnival. What is the greatest amount of campers that can attend the carnival if the camp must stay within their budgeted amount?

6. The carnival owner pays the owner of an exotic animal exhibit \$650 for the entire time the exhibit is displayed. The owner of the exhibit has no other expenses except for the daily insurance cost. If the owner of the animal exhibit wants to make more than \$500 in profits for the  $5\frac{1}{2}$  days, what is the greatest daily insurance rate he can afford to pay?

7. Nancy's morning routine involves getting dressed, eating breakfast, making her bed, and driving to work. Nancy spends  $\frac{1}{3}$  of the total time in the morning getting dressed, 10 minutes eating breakfast, 5 minutes making her bed, and the remaining time driving to work. If Nancy spends  $35\frac{1}{2}$  minutes getting dressed, eating breakfast, and making her bed, how long is her drive to work?

Write and solve this problem, algebraically, using an equation.