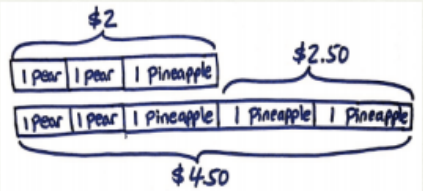
Milk Shake and Cookies Hint Cards

Having Difficult Understanding how much 1500 cents is	How much money is 10 pennies (cents)? How much money is 100 pennies (cents)? How much money is 200 pennies (cents)? How much money is 500 pennies (cents)? How many pennies does it take to make 1 dollar? How many dollars does 500 pennies (cents) make? How many 500 pennies make up 1500 cents? **Therefore:** How many dollars is 1500 pennies? How can you use a similar logic to figure out how much money 1800 cents is?

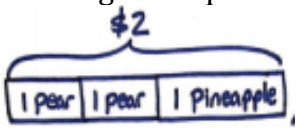
I know what the numbers 1880 and 1500 mean but I forgot how to write equations using tape diagrams and that is how I would like to solve the problem

Two pears and a pineapple cost $2. Two pears and three pineapples cost $4.50. Find the cost of a pineapple.



(1) Review the above example:

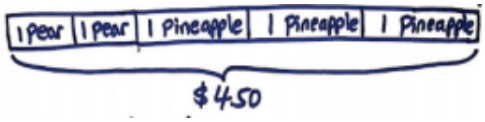
(2) What sentence in the word problem does the top part of the diagram represent?



How do you know this?

(3) If we look back at your original problem how could you use tape diagrams to represent your total of 1880? (How many large and small shakes make up 1800)

(4) What sentence in the word problem above does the bottom part of the diagram represent?



(5) If we look back at your original problem how could you use tape diagrams to represent your total of 1500? (How many large and small shakes make up 1500)

I know what the numbers 1880 and 1500 mean and I am able to express the equations as tape diagrams, but I forgot how to solve the problem using the tape diagrams and that is how I would like to solve the problem

Lets look at a similar problem.

Antonio loves to go to the movies. He goes both at night and during the day (matinee show). The cost of matinee (day time) show is $6.00. The cost of an evening show is $8.00. If Antonio went to see a total of 12 movies and spent $86 dollars, how many day and night shows did he attend?

Using tape diagrams we can set up two equations.

(1) He saw a total of 12 evening (e) and day (d) time shows.

= 12

(2) He spent a total of $86 when each evening (e) show costs $8 and each day (d) time show costs $6.

= 86

(3) Now that the two tape diagram equation are set up, look at the two of them and notice to see if they have anything in common.

(4) When looking at the two tape-diagrams equation you may notice that they both contain 1e and 1d box. And if we look at the first equation we know that 1e and 1d box together make 12.

(5) Using the fact that 1e and 1d box together make 12, we can begin removing 1 pair at a time from the second equation and see what is left.

When we remove the first pair we are left with:

= 74

(6) What are the equations when you eliminate your
   a. Second:
   b. Third:
   c. Fourth:
   d. Fifth:
   e. Sixth pair:

(7) How might you use the remaining equation after you remove your sixth pair to solve for e?

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I know what the numbers 1880 and 1500 mean and I can write them as algebraic equations. My challenge is I want to use data tables to solve this problem and I forgot how to set things up

Antonio loves to go to the movies. He goes both at night and during the day (matinee show). The cost of matinee (day time) show is $6.00. The cost of an evening show is $8.00. If Antonio went to see a total of 12 movies and spent $86 dollars, how many day and night shows did he attend?

Here are the two equations:

- m + e = 12
- 6m + 8e = 86

lets begin by setting up both of our data tables:

m	m + e = 12	e		m	6m + 8e = 86	e
1	1 + e = 12			1	6(1)+8e=86	
2	2 + e = 12			2	6(2)+8e=86	
3	3 + e = 12			3	6(3)+8e=86	
4	4 + e = 12			4	6(4)+8e=86	
5				5		
6				6		
7				7		
8				8		
9				9		
10				10		

Once the data table is set up begin solving each of the equations: (Here is an example of m=1

m	m + e = 12	e		m	6m + 8e = 86	e
1	1 + e = 12	11		1	6(1)+8e=86	10
1-1 +e=12 -1 0 + e=11				6 + 8e = 86 6 -6 +8e = 86 -6 0 + 8e = 80 8e/8 = 80/8 e=10		

Continue completing the separate tables until you find a row where the value for m gives you the same value for e. This is your solution.

How is this problem similar to the problem you are working on in class and how might you apply this process to your problem?

I know what the numbers 1880 and 1500 mean and I can write them as algebraic equations. My challenge is I want to use algebra to solve this problem and I forgot how to set things up when solving systems of equations

Antonio loves to go to the movies. He goes both at night and during the day (matinee show). The cost of matinee (day time) show is $6.00. The cost of an evening show is $8.00. If Antonio went to see a total of 12 movies and spent $86 dollars, how many day and night shows did he attend?

Here are the two equations:

- m + e = 12
- 6m + 8e = 86

Substitution	vs	Elimination (addition)
Remember: Using this method means we want to select 1 equation and solve for a variable. Then we substitute this into the second equation and solve for the variable in the equation.		**Remember:** Using this method means we want to select 1 equation to re-write so that 1 of the variables becomes the opposite value in the other equation. Then we add the two equations together and we eliminate the variable that has the opposite value.
m + e = 12 solve for m: m + e –e = 12-e m + 0 = 12 - e m = 12 - e 6m + 8e = 86 Substitute for m: 6(12 - e) + 8e = 86 **Now you complete** Solve for e: Then solve for m:		m + e = 12 6m + 8e = 86 I choose to re-write top equation to eliminate m -6(m + e = 12) -6m + -6e = -72 Then I align equations to add them and eliminate m **Now you complete** Solve for e: -6m – 6e = -72 + 6m + 8e = 86 Then solve for m: