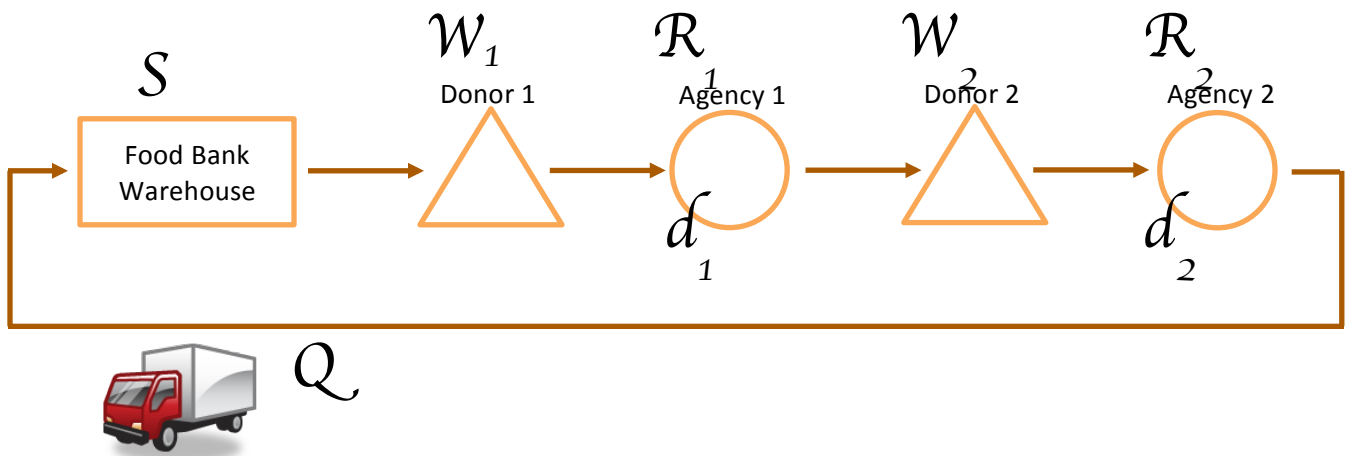


### Retail Donation Program (RDP)



Variable	Description
$Q$	Capacity of the truck; how much food it can hold
$S$	Initial load; food put in the truck at the start
$W_1$	Amount of food donated by Donor 1
$R_1$	Amount of food given to Agency 1
$d_1$	Demand at Agency 1; how much they ask for
$W_2$	Amount of food donated by Donor 2
$R_2$	Amount of food given to Agency 2
$d_2$	Demand at Agency 2; how much they ask for

Today, you will:

TRANSLATE WORDS INTO ALGEBRA AND ALGEBRA INTO WORDS

Words	Algebra
Total food given to agencies today	$R_1 + R_2$
The donation from Donor 1 must fit in the truck.	$W_1 \leq Q - S$
You have to give Agency 2 at least its demand.	$R_2 \geq d_2$
Donor 1 donates more than Donor 2.	$W_1 > W_2$
At Agency 1, you can't give more food than what you have in the truck.	$R_1 \leq S + W_1$
The empty space in the truck when it leaves Agency 1	$Q - (S + W_1 - R_1)$

Name: Key

Date: \_\_\_\_\_

### Homework

Directions: Match the verbal expression or statement to its algebraic translation.

At Agency 1, you have to give them at least their demand.	$d_2 > d_1$
Agency 1 demands more than Agency 2.	$R_2 > W_1$
You gave Agency 2 more food than you got from Donor 1.	$R_1 \geq d_1$
You gave Agency 2 less food than you gave to Agency 1.	$d_1 > d_2$
Agency 2 demands more than Agency 1.	$R_2 < R_1$

Directions: Translate verbal expressions and statements into algebraic ones.

1. When you took the donation from Donor 1, it made the truck completely full.

$$S + W_1 = Q$$

2. Agency 2 demands less than Agency 1.

$$d_2 < d_1$$

3. You gave more food to Agency 1 than you got from Donor 1.

$$R_1 > W_1$$

4. You can't fit enough food in the truck to satisfy the demands of both agencies.

$$d_1 + d_2 > Q$$

5. Some food was left in the truck at the end of the day.

$$S + W_1 - R_1 + W_2 - R_2 > 0$$