3-4 Linear Programming

Fred has two summer jobs. He can earn $15 per hour doing yard work and $10 per hour working at the mall. Each week, he must work less than 40 hours but earn at least $475.

1. Complete the table to determine if each combination satisfies Fred's criteria.

Plan	Hours of Yard Work	Hours at the Mall	Wages from Yard Work	Wages from the Mall	Total Wages
A	10	25			
B	30	9			
C	20	15			
D	25	10			
E	30	7			

2. Find another combination of work hours that meets Fred's criteria.

3. Let *x* represent the number of hours Fred does yard work and let *y* represent the number of hours Fred works at the mall. Write an inequality that describes Fred's goal for his weekly income.

THINK AND DISCUSS

4. **Describe** another inequality you can write to represent one of Fred's criteria.

5. **Discuss** whether Fred could work only at the mall and still meet his goals.

3-4 Linear Programming

Fred has two summer jobs. He can earn $15 per hour doing yard work and $10 per hour working at the mall. Each week, he must work less than 40 hours but earn at least $475.

1. Complete the table to determine if each combination satisfies Fred's criteria.

Plan	Hours of Yard Work	Hours at the Mall	Wages from Yard Work	Wages from the Mall	Total Wages
A	10	25	$150	$250	$400
B	30	9	$450	$90	$540
C	20	15	$300	$150	$450
D	25	10	$375	$100	$475
E	30	7	$450	$70	$520

2. Find another combination of work hours that meets Fred's criteria.

3. Let x represent the number of hours Fred does yard work and let y represent the number of hours Fred works at the mall. Write an inequality that describes Fred's goal for his weekly income. $15x + 10y \geq 475$

THINK AND DISCUSS

4. Describe another inequality you can write to represent one of Fred's criteria. $x + y < 40$

5. Discuss whether Fred could work only at the mall and still meet his goals.

2. Possible answer: 28 hours of yard work, 8 hours at the mall

5. No; even if he worked 40 hours at the mall, his total wages would be only $400.

Holt Algebra 2