

### Problem Solving: Make a Table or Chart

1. At West High School, 362 students take Spanish. This number has been increasing at a rate of 20 per year. The number of students taking French is 259 and has been decreasing at a rate of about 3 per year. At these rates, when will there be two times as many students taking Spanish as taking French?

$Spanish = 2 \text{ French}$

	now	1yr	2yr	3yr	4yr	5yr	6yr
Spanish	362	382	402	422	442	462	482
French	259	256	253	250	247	244	241

6 years

2. At North High School, 176 students buy non-spiral notebooks from the school store. This number has been increasing at a rate of about 24 per year. The number of students buying spiral notebooks is 331 and has been decreasing at a rate of about 15 per year. At these rates, when will the number of spiral notebooks sold be half the number of non-spiral notebooks sold?

$spiral = \frac{1}{2} \cdot non-spiral$

	now	1yr	2yr	3yr	4yr	5yr	6yr
spiral	331	316	301	286	271	256	241
non-spiral	176	200	224	248	272	296	320

7yr	8yr	9yr
226	211	196
344	368	392

9 years

3. After college, Mark is offered two jobs. Job A has a starting salary of \$17,500 per year with a guaranteed raise of \$3000 per year. Job B has a starting salary of \$20,000 with a guaranteed raise of \$2000 per year. Which job would pay more after 5 years?

	start	1 yr	2 yr	3 yr	4 yr	5 yr
A	17,500	20,500	23,500	26,500	29,500	<u>32,500</u>
B	20,000	22,000	24,000	26,000	28,000	30,000

Job A

4. Five students each have a favorite food. No two of them have the same favorite. Using the clues below, which food goes with each person?

1. Adrienne's favorite food is not pizza.
2. Benito hates pizza and hamburgers.
3. One of the students' favorite foods is chicken wings.
4. Cindy's favorite is french fries.
5. Darryl is allergic to onion rings.
6. Eddie's favorite is onion rings.

Adrienne - burgers  
 Benito - wings  
 Cindy - ff  
 Darryl - pizza  
 Eddie - onion rings

	pizza	burgers	wings	ff	onion rings
Adrienne	<del>X</del>	☺	<del>X</del>	<del>X</del>	<del>X</del>
Benito	<del>X</del>	<del>X</del>	☺	<del>X</del>	<del>X</del>
Cindy	<del>X</del>	<del>X</del>	<del>X</del>	☺	<del>X</del>
Darryl	☺	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>
Eddie	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	☺

5. Mr. Smith, Mr. Jones, and Mr. Chang are a butcher, a baker, and a candlestick maker, but not in that order. Who does what?

1. The baker is married to Mr. Smith's sister.
2. Mr. Chang is not the candlestick maker.
3. Mr. Jones is a bachelor.
4. Mr. Smith is a regular customer of the butcher's.

	butcher	baker	candlestick maker
Smith	<del>X</del>	<del>X</del>	
Jones		<del>X</del>	<del>X</del>
Chang	<del>X</del>		<del>X</del>

Smith - candlestick maker  
 Jones - butcher  
 Chang - baker

6. Four friends have birthdays in January, July, September, and December. In what month was each person born?

1. Amelia was not born in the winter.
2. Brandon celebrates his birthday near Independence Day.
3. Lianna's is the month after Jason's.