Name_____

PERENNIAL MATH   TEST #2
February 2017 Intermediate Level

1) $18 + \square = 26 - \square$

2) Farmer Brown only grows cabbages and cucumbers. He planted 6 cabbages for every 5 cucumbers. If Farmer Brown had 66 total vegetables that he put in his wagon, how many of those were cabbages?

3) It rained a lot in April so Bob could not play outside for 18 days. What percent of the month did it not rain?

4) In this magic square the four numbers in each row, column, and diagonal have the same sum. What value should X have?

1	15		
	6	7	X
8	10	11	
		2	16

5) Out of the 48 boys in the 5th grade twenty-one boys play baseball and twenty-five boys play football. Three boys play both sports. How many boys do not play either sport?

6) Mr. Johnson decided to invest his money this year. In January he invested $3 in a stock, then $9 in February, then $27 in March and he kept putting in triple the amount each month. How much money did he invest for the year?

PERENNIAL MATH

TEST #2

February 2017 Intermediate Level Answers

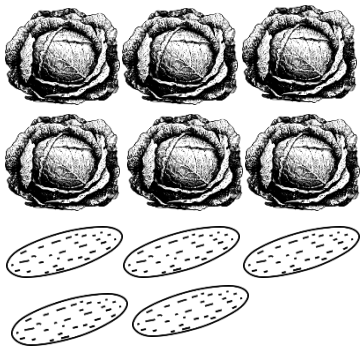|	
1) 18 + ☐ = 26 - ☐	**4**
2) Farmer Brown only grows cabbages and cucumbers. He planted 6 cabbages for every 5 cucumbers. If Farmer Brown had 66 total vegetables that he put in his wagon, how many of those were cabbages?	**36**
3) It rained a lot in April so Bob could not play outside for 18 days. What percent of the month did it not rain?	**40**
4) In this magic square the four numbers in each row, column, and diagonal have the same sum. What value should X have?	**9**
5) Out of the 48 boys in the 5th grade twenty-one boys play baseball and twenty-five boys play football. Three boys play both sports. How many boys do not play either sport?	**5**
6) Mr. Johnson decided to invest his money this year. In January he invested $3 in a stock, then $9 in February, then $27 in March and he kept putting in triple the amount each month. How much money did he invest for the year?	**797,160**

1) $18 + \boxed{} = 26 - \boxed{}$

The number that goes in the box that makes both sides equal is 4.
18 + 4 = 26 – 4. Both sides would equal 22.

4

2) This is a ratio problem. Since the ratio is 6:5 cabbages to cucumbers, then for 6 out of every 11 vegetables would have to be cabbages. Since there were 66 vegetables, then 66/11 = 6. Six portions would be 6 x 6 or 36 cabbages.

(6 of 11 are cabbages)
36 out of 66 are cabbages

36

3) It rained a lot in April so Bob could not play outside for 18 days. April has 30 days, so he could play outside for 12 days. Convert 12/30 to a percent to find out what percent of the month it did not rain. 12/30 = 2/5 which is 40%.
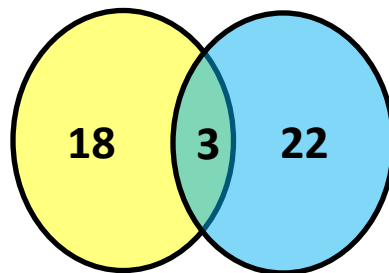
40

4) The sums of each row, column and diagonal are equal. You can go in any direction to solve for the sides and then finally you will have three numbers in the fourth column and that will allow you to solve for X. One of the diagonals has all 4 numbers so we can solve for the sum: 1 + 6 + 11 + 16 = 34. Now solve for the other empty squares. 15 + 6 + 10 + ? = 34. The missing number is 3. The lower left corner square is 3 + 2 + 16 + ? = 34. The number is 13. The top right corner is 13 + 10 + 7 + ? = 34. The number is 4. Solve for the third row: 8 + 10 + 11 + ? = 34. The missing number is 5. Now solve for X. 16 + 5 + 4 + X = 34. X = 9

1	15		4
	6	7	X
8	10	11	5
13	3	2	16

9

5) Create a Venn Diagram. Out of the 48 boys in the 5th grade twenty-one boys play baseball and twenty-five boys play football. Three boys play both sports. Subtract to find out how many boys fit in each region. There are 5 boys who did not play neither sport.

Baseball (21)   Football (25)

18   3   22

Neither = 48 - (18+3+22)

= 48 – 43

= 5

5

6) Make a chart to keep up with the money invested each month. Then add the amounts together.

January	3
February	9
March	27
April	81
May	243
June	729
July	2187
August	6561
September	19683
October	59049
November	177147
December	531441
Total	797160

797,160