Name_____

PERENNIAL MATH
TEST #4
February 2015 Rookie Level

1) A standard 12 hour clock shows 10 o'clock. What time will it be 100 hours from now?

2) Donny has pennies, nickels, dimes and quarters. How many ways can he combine his coins to make 36 cents?

3) Mr. and Mrs. Perkins have three children. Each of these children are married. Each of those couples have four children. How many total people are in the entire Perkins family?

4) Mitzi, Dale, and Anna went to the jewelry store. Mitzi and Dale had $10 together. Dale and Anna had $8 together. Mitzi and Anna had $14 together. How much did Mitzi have?

5) Using the table below, if the pattern were continued, what number will be in column C in Row 20?

	A	B	C
Row 1	1	2	3
Row 2	6	5	4
Row 3	7	8	9
Row 4	12	11	10

6) There were 72 mailboxes on Bridge Street. One out of every four houses had a yellow mailbox. One out of every six houses had a blue mailbox. How many mailboxes on Bridge Street were not yellow or blue?

1) A standard 12 hour clock shows 10 o'clock. What time will it be 100 hours from now?	**2**
2) Donny has pennies, nickels, dimes and quarters. How many ways can he combine his coins to make 36 cents?	**24**
3) Mr. and Mrs. Perkins have three children. Each of these children are married. Each of those couples have four children. How many total people are in the entire Perkins family?	**20**
4) Mitzi, Dale, and Anna went to the jewelry store. Mitzi and Dale had $10 together. Dale and Anna had $8 together. Mitzi and Anna had $14 together. How much did Mitzi have?	**$8**

5) Using the table below, if the pattern were continued, what number will be in column C in Row 20?

	A	B	C
Row 1	1	2	3
Row 2	6	5	4
Row 3	7	8	9
Row 4	12	11	10

58

6) There were 72 mailboxes on Bridge Street. One out of every four houses had a yellow mailbox. One out of every six houses had a blue mailbox. How many mailboxes on Bridge Street were not yellow or blue?	**42**

1) If a standard 12 hour clock shows 10 o'clock, it will it be 2 o'clock 100 hours from now. 100 hours divided by 12 is 8 with four hours left over. Four hours past 10 is 2 o'clock.

2

2) Make a chart and notice the patterns that evolve. Start with quarters and work your way down. There are 24 combinations that create 36¢.

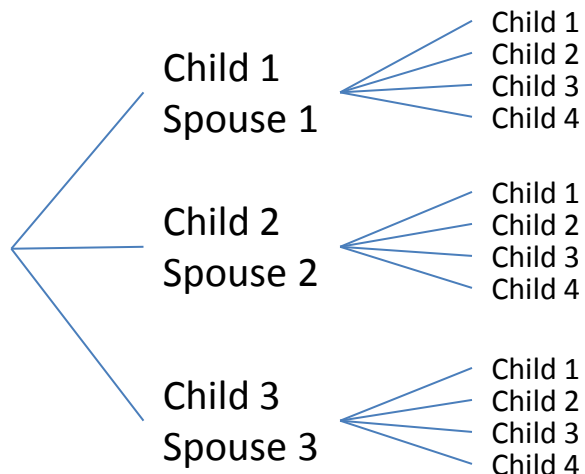| Quarters	Dimes	Nickels	Pennies
1	1		1
1		2	1
1		1	6
1			11
	3	1	1
	3		6
	2	3	1
	2	2	6
	2	1	11
	2		16
	1	5	1
	1	4	6
	1	3	11
	1	2	16
	1	1	21
	1		26
		7	1
		6	6
		5	11
		4	16
		3	21
		2	26
		1	31
			36

24

3) Draw the problem out. There are 2 grandparents, 6 parents, and 12 grandchildren. This is 20 people.

Mr. Perkins
Mrs. Perkins

Child 1
Spouse 1
— Child 1
— Child 2
— Child 3
— Child 4

Child 2
Spouse 2
— Child 1
— Child 2
— Child 3
— Child 4

Child 3
Spouse 3
— Child 1
— Child 2
— Child 3
— Child 4

20

4) Mitzi, Dale, and Anna went to the jewelry store. Mitzi and Dale had $10 together. Dale and Anna had $8 together. Mitzi and Anna had $14 together. Students could use trial and error or algebra as shown here.

$$M + D = 10$$
$$D + A = 8$$
$$M + A = 14$$

Add the three equations together

$$2M + 2D + 2A = 32 \quad \textit{Divide in half}$$
$$M + (D + A) = 16 \quad \textit{Solve for M by substituting known D + A = 8 into equation}$$
$$M + (8) = 16 \quad \textit{Subtract 8 from both sides}$$
$$M = 8$$

$8

5) The numbers are sequential and just wrap around row to row. Students could draw out the whole chart or they might notice the pattern in just Column C. This pattern is +1 (between Row 1 and 2), then +5 (between Row 2 and 3). Then this pattern is repeated.

The number in Column C in the 20th row would be 58.

	A	B	C
Row 1	1	2	3
Row 2	6	5	4
Row 3	7	8	9
Row 4	12	11	10
Row 5	13	14	15
Row 6	18	17	16
Row 7	19	20	21
Row 8	24	23	22
Row 9	25	26	27
Row 10	30	29	28
Row 11	31	32	33
Row 12	36	35	34
Row 13	37	38	39
Row 14	42	41	40
Row 15	43	44	45
Row 16	48	47	46
Row 17	49	50	51
Row 18	54	53	52
Row 19	55	56	57
Row 20	60	59	58

Column C Pattern
+1
+5

58

6) There were 72 mailboxes on Bridge Street. One out of every four houses had a yellow mailbox. One out of every six houses had a blue mailbox. 72 ÷ 4 = 18 yellow mailboxes. 72 ÷ 6 = 12 blue mailboxes. 72- (18 + 12) = 42 mailboxes on Bridge Street that were not yellow or blue.

42