Recursive Formula Practice
Math 3

Find the first 5 terms of the sequence given the recursive formula.

1. $f(1) = -2, f(n) = f(n-1) + 3$ -2, 1, 4, 7, 10

2. $f(1) = 10, f(n) = f(n-1) - 13$ 10, -3, -16, -29, -42

3. $f(1) = 0.25, f(n) = 4f(n-1)$ 0.25, 1, 4, 16, 64

4. $f(1) = 1000, f(n) = 0.1f(n-1)$ 1000, 100, 10, 1, 0.1

5. $f(1) = -2, f(n) = 2f(n-1) + 3$ -2, -1, 1, 5, 13

Write a recursive formula for the given scenario.

6. 2 people spread a rumor at a rate of 10% per minute. How many people know the rumor in n minutes?

$$f(0) = 2, f(n) = 1.1f(n-1)$$

7. Will has $4 in his wallet. He adds $10 more a day. How much money does Will have after n days?

$$f(0) = 4, f(n) = f(n-1) + 10$$

8. A family of 2000 penguins begin to die off at a rate of 15% per year. How many penguins will be alive in n years?

$$f(0) = 2000, f(n) = 0.85f(n-1)$$

9. The State Fair starts with 100000 ears of corn. They expect to sell 4000 ears a day. How many ears of corn will the Fair have after n days?

$$f(0) = 100000, f(n) = f(n-1) - 4000$$

10. Challenge: Write a recursive formula. 11. Super Challenge: Write a recursive formula.

$$f(1) = 0.25, f(n) = f(n-1) + (0.5n + 0.25)$$

$$f(n) = 7, 10, 17, 27, 44, 71, \ldots$$

Days	Rainfall (in)
1	0.25
2	1
3	2.25
4	4
5	6.25
6	9
7	12.25

$$f(1) = 7, f(2) = 10, f(n) = f(n-1) + f(n-2)$$