***Pay It Forward,* Again**

At the beginning of this unit we examined the *Pay It Forward* class project that Trevor McKinney came up with. Let us revisit this situation and take a deeper look at what transpired.

1. Make a table that shows the number of people who will receive good deeds at each of the next seven stages of the *Pay It Forward* process.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Stage of Process | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Number of Good Deeds | 3  | 9 | 27 |  |  |  |  |  |  |  |



1. Then plot the data on a graph. Make sure you have accurate axes labels and scales.
2. How does the number of good deeds at each stage grow?
3. What is the common ratio?
4. How is that pattern change shown in the plot of the data?
5. How many stages of the *Pay It Forward* process will be needed before a total of at least 20,000 good deeds will be done?
6. Write a NOW-NEXT rule to illustrate the *Pay It Forward* process.
7. Write an NOW-NEXT rule that would show the number of good deeds at a stage number if each person in the process does good deeds for **two** others.
8. How would the NOW-NEXT rule change if each person in the process does good deed for **four** other people?

Adapted from *Core-Plus Mathematics, Course 1, Glencoe-McGraw-Hill, 2008.*