**Pay It Forward[[1]](#footnote-1)**

In the movie “Pay It Forward,” a student, Trevor, comes up with an idea that he thought could change the world. He decides to do a good deed for three people and then each of the three people would do a good deed for three more people and so on. He believed that before long there would be good things happening to billions of people. At stage 1 of the process, Trevor completes three good deeds.

* How does the number of good deeds grow from stage to stage?
* How many good deeds would be completed at stage 5?
* Describe a function that would model the Pay It Forward process at *any* stage.

1. This task appears in Boston, Melissa, Fredrick Dillon, Margaret Smith, and Stephen Miller. *Taking Action: Implementing Effective Mathematics Teaching Practices in Grades 9-12.* Reston, VA: National Council of Teachers of Mathematics, 2017. [↑](#footnote-ref-1)