SPINOFFS

Spinoffs are relatively short learning modules inspired by the LTAs. They can be easily implemented to support student learning in courses ranging from prealgebra through calculus. The Spinoffs typically give students an opportunity to use mathematics in a real world context.

LTA - SPINOFF 1A — How a Change in the Number of Flights Per Year Affects the Probability of Sufficiency

LTA - SPINOFF 1B — How the Number of Flights Per Year Changes the Total Projected Operating Time

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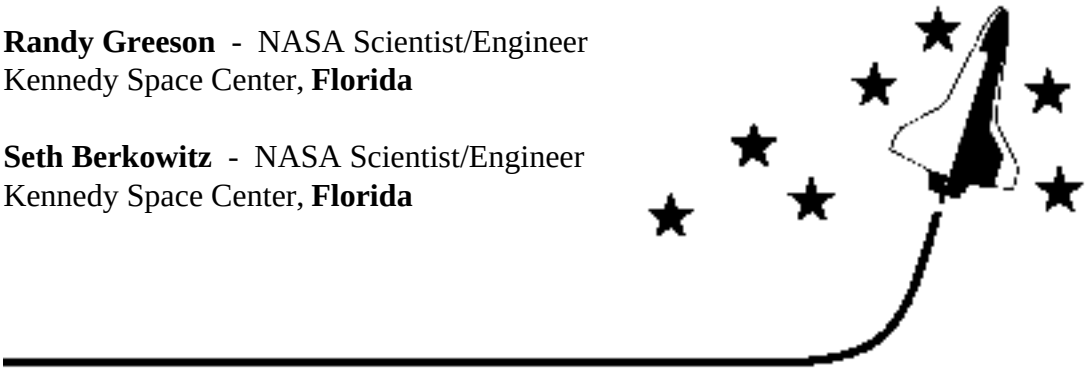

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SPINOFF 1B

How the Number of Flights Per Year Changes the Total Projected Operating Time for Fuel Cells

At the present time NASA makes projections based on 8 flights per year. However, it is possible that the number of flights could increase or decrease in the future.

1) Assuming that other conditions remain the same (that is, QPV, FPOT, and GPOT do not change), write a function that relates the change in the Total Projected Operating Time (TPOT) for fuel cells to the number of flights per year, **X**. Let **X** assume values in the interval from 0 to 20.

2. a) Sketch the graph of your function, and
   b) use it to complete the table:

Flights per Year	Total Projected Operating Time (TPOT)
5	
8	
12	
15	
20	

3) What does the slope of the graph of the function represent?

4) What could cause the slope to change?

5) Do all the points you graphed make sense? Why or why not?

6) Give the coordinates of one point on your graph. What do the numbers mean?

7) If the TPOT cannot exceed 15,000 hours, how many flights per year would be possible?