

The Devil and Daniel Webster — Answers

- The answers will depend on the student. The outcome is not apparent at the beginning.
- The completed table is shown below.

DAY	SALARY FOR DANIEL WEBSTER	DEVIL'S COMMISSION	MONEY AT THE END OF THE DAY
1	\$1000	\$100	\$900
2	1800	200	1600
3	3200	400	2800
4	5600	800	4800
5	9600	1600	8,000
6	16,000	3200	12,800
7	25,600	6400	19,200
8	38,400	12,800	25,600
9	51,200	25,600	25,600
10	51,200	51,200	0
11	0	102,400	-102,400
12	-204,800	204,800	-409,600
⋮	⋮	⋮	⋮
30	-1.02×10^{12}	5.369×10^{10}	-1.07×10^{12}

- The answer depends on the student's original decision. The student definitely should not want to work for the devil for very long, given this payment scheme.
- The greatest value for "money at the end of the day" is \$25,600. It would therefore be reasonable to work for either 8 or 9 days.
- Most students will expect an exponential curve (see graph on following page).
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- The salary scheme is not realistic.

