Township Grids

In the early territories of the United States, public land was surveyed and divided into 6 mile by 6 mile grids called townships. Each 1 mile by 1 mile section of the grid was numbered according to the following diagram. Section number 16 was designated for public schools. Sometimes these tracts of land were given to soldiers as payment for their service. These 36 square mile plots of land are still in place today.

1. If Isaac Robbins was granted all of the land in Section 6, how many square miles was he granted?

2. Isaac wanted to use a $\frac{1}{2}$ mile by $\frac{1}{4}$ mile piece of Section 6 for farming. How many square miles would Isaac farm?

3. Isaac’s five sons will inherit Section 6. Draw a diagram using a 5 × 5 grid to show how much one son will inherit if the land is divided equally. Find the square mileage inherited by each son.

4. Is there another way for Isaac’s five sons to each have the same area of land? Explain.

5. Draw another possible way for Isaac’s sons to each have an equal section of Section 6.

6. Why does it seem reasonable to place the public school in Section 16?