Designing a Bookcase

Home Link 8-5

NAME DATE TIME

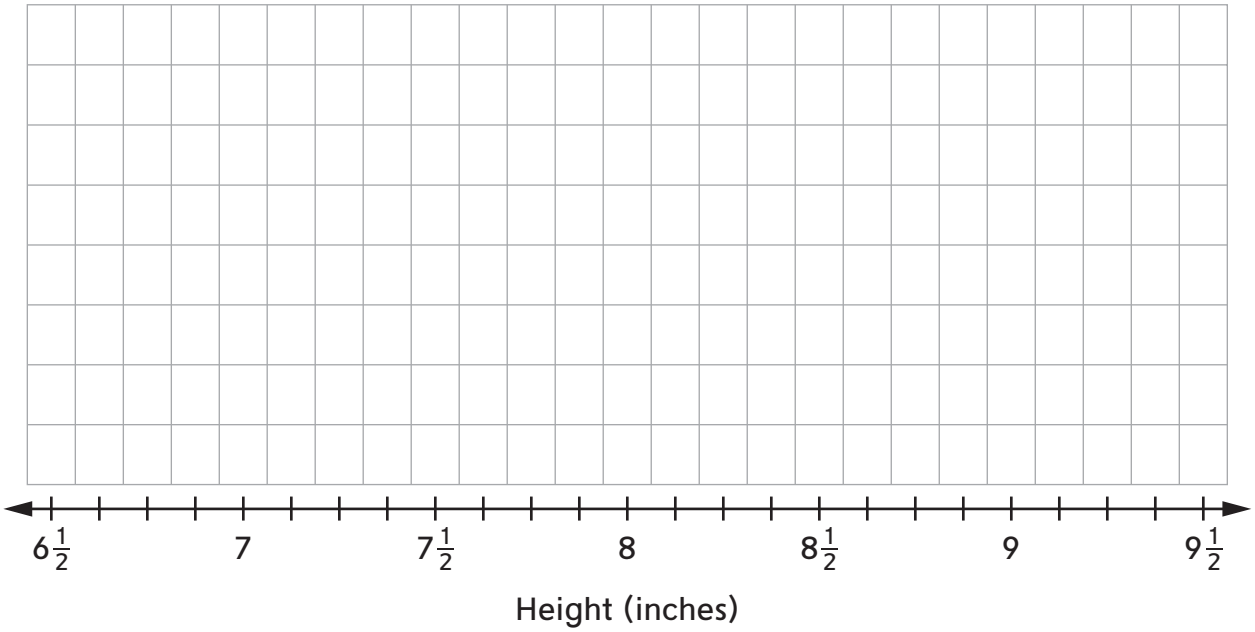
Nicholas is building a bookcase. To help with the design, he measured the height of each of his books to the nearest $\frac{1}{8}$ inch. His measurements are given below.

SRB 215-216

$6\frac{1}{2}$, $9\frac{1}{4}$, $7\frac{1}{8}$, $7\frac{1}{2}$, 8, $6\frac{7}{8}$, $9\frac{1}{4}$, $9\frac{1}{4}$, $9\frac{1}{4}$, $9\frac{1}{4}$, $9\frac{1}{4}$, $8\frac{1}{4}$, 8, $8\frac{1}{4}$, $8\frac{3}{8}$,
$6\frac{1}{2}$, $7\frac{1}{8}$, 9, $6\frac{7}{8}$, $9\frac{3}{8}$, $6\frac{7}{8}$, $7\frac{1}{2}$, 8, $8\frac{1}{4}$, $9\frac{1}{4}$, $6\frac{7}{8}$, $6\frac{7}{8}$, $8\frac{1}{4}$, $8\frac{1}{4}$, $8\frac{1}{4}$

Plot the data set on the line plot below.

Book Heights



Use the completed line plot to answer the questions below.

1. What is the difference in height between the tallest and shortest books? _____ in.

2. Nicholas wants the space between the shelves to be $\frac{7}{8}$ inch taller than his tallest book.

   a. How far apart should he make the shelves? _____ in.

   b. If the thickness of the wood he uses for the shelves is $\frac{5}{8}$ inch, what will be the total height of each shelf? (*Hint:* The total height is the thickness of one piece of wood plus the distance between shelves.) _____ in.

Practice

3. 8,207 ÷ 7 → _____

4. 7,109 ÷ 8 → _____