Solve and show your thinking with a tape diagram.

1. Anthony bought an 8-foot board. He cut off \( \frac{3}{4} \) of the board to build a shelf, and gave \( \frac{1}{3} \) of the rest to his brother for an art project. How many inches long was the piece Anthony gave to his brother?

   \[
   \text{board} \quad \begin{array}{c}
   \text{\underline{2ft}} \quad \text{\underline{2ft}} \quad \text{\underline{2ft}} \quad \text{\underline{2ft}} \quad \text{8ft.}
   \end{array}
   \]

   \[
   \text{shelf} \quad \text{b}
   \]

   \[2 \text{ft} \times 12 \text{in} = 24 \text{in} \quad 24 \text{in.} \div 3 = 8 \text{in}\]

2. Riverside Elementary School is holding a school-wide election to choose a school color. Five-eighths of the votes were for blue, \( \frac{5}{9} \) of the remaining votes were for green, and the remaining 48 votes were for red.
   a. How many votes were for blue?

   \[
   \begin{array}{c}
   \text{votes} \quad 180 \quad 60 \quad 48 \\
   \text{3 blue} \quad \text{3 blue} \quad \text{3 blue} \quad \text{3 blue} \quad \text{blue votes} \\
   \text{remaining} \quad \text{green} \quad \text{red} \\
   \frac{3}{5} \quad \frac{5}{180} \quad 48 \div 4 = 12 \\
   \end{array}
   \]

   \[180 \text{ votes were for blue.}\]

   b. How many votes were for green?

   \[60 \text{ votes were for green.}\]
c. If every student got one vote, but there were 25 students absent on the day of the vote, how many students are there at Riverside Elementary School?

\[ \begin{align*}
180 & \quad +60 \\
& \quad +48 \\
& \quad +288 \text{ voted} \\
\hline
313 & \quad +25 \text{ absent}
\end{align*} \]

There are 313 students total at Riverside Elementary School.

d. Seven-tenths of the votes for blue were made by girls. Did girls who voted for blue make up more than or less than half of all votes? Support your reasoning with a picture.

Blue Votes

\[ \begin{align*}
\text{girls} & \quad 18 \quad 18 \quad 18 \quad 18 \quad 18 \quad 18 \quad 18 \quad 18 \\
\text{boys} & \quad 180 \\
\hline
\text{total votes} & \quad 288 \\
\frac{7}{10} \text{ of } 288 & \quad 144
\end{align*} \]

Girls made up less than \( \frac{1}{2} \) of the vote.

e. How many girls voted for blue?

\[ \begin{align*}
180 & \div 10 = 18 \\
5 & \quad \times 18 \\
\frac{7}{12} & \quad \times \frac{18}{1} = 12.6
\end{align*} \]

12.6 girls voted for blue.