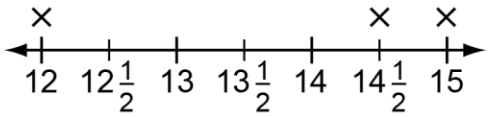
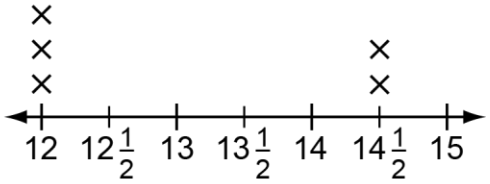
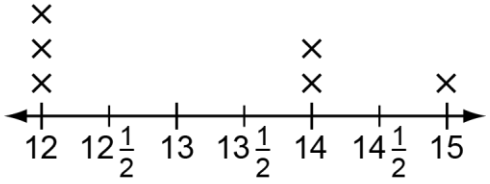
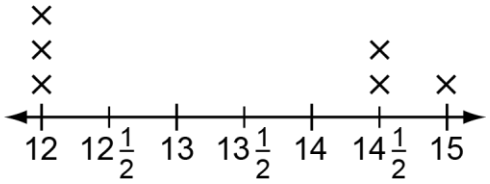
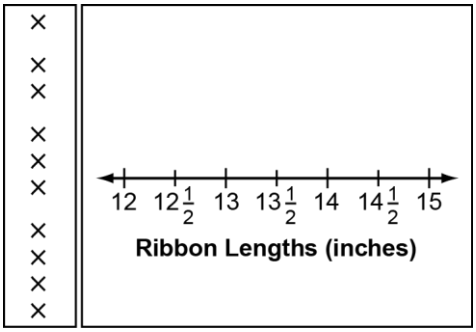
Content Standard	***MAFS.5.MD*** *Measurement and Data* ***MAFS.5.MD.2*** *Represent and interpret data.* **MAFS.5.MD.2.2** Make a line plot to display a data set of measurements in fractions of a unit $\left(\frac{1}{2}, \frac{1}{4}, \frac{1}{8}\right)$. Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally*.
Assessment Limits	Measurement units are limited to halves, quarters, and eighths. Division is limited to a whole number divided by a unit fraction or a unit fraction divided by a whole number.
Calculator	No
Acceptable Response Mechanisms	Equation Response Graphic Response – Hot Spot Multiple Choice Response Table Response
Context	Allowable
Example	
Context	For line plot construction or identification, all data are at four or five specific measures. For problem solving, if one operation is used, it is subtraction or multiplication. If multiple operations are used, they are addition and subtraction.
Context easier	For line plot construction or identification, all data are at two or three specific measures. For problem solving, addition is used.
Context more difficult	For line plot construction or identification, all data are at more than five specific measures. For problem solving, if one operation is used, it is division. If multiple operations are used, one must be multiplication or division.

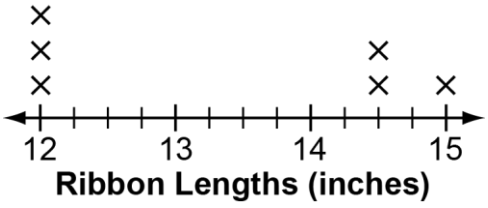
Sample Item Stem	Response Mechanism	Notes, Comments
Kelly has strips of ribbon with lengths as shown. **Ribbon Lengths (inches)** 12 $14\frac{1}{2}$ 12 15 $14\frac{1}{2}$ 12 Which line plot represents these data? **A.**  **Ribbon Lengths (inches)** **B.**  **Ribbon Lengths (inches)** **C.**  **Ribbon Lengths (inches)** **D.**  **Ribbon Lengths (inches)**	Multiple Choice Response	

<table>
<tr>
<td>Kelly has strips of ribbon with lengths as shown.

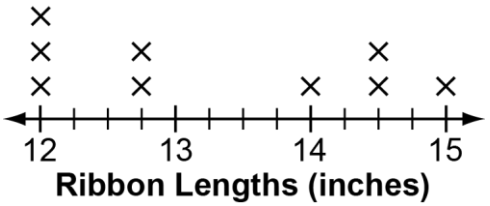
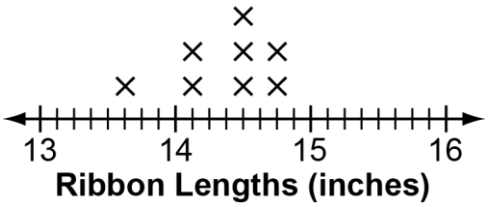
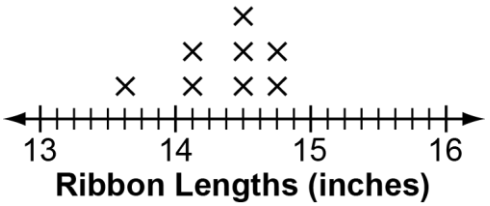
<table>
<tr><th>Ribbon Lengths (inches)</th></tr>
<tr><td>12</td></tr>
<tr><td>$14\frac{1}{2}$</td></tr>
<tr><td>12</td></tr>
<tr><td>13</td></tr>
<tr><td>$14\frac{1}{2}$</td></tr>
<tr><td>$13\frac{1}{4}$</td></tr>
<tr><td>12</td></tr>
</table>

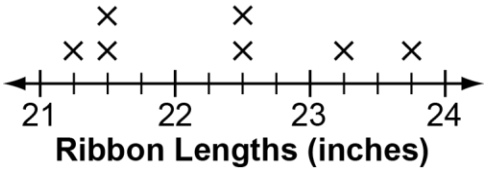
 

Click on the graph to create a line plot that represents these data.</td>
<td>Graphic Response – Hot Spot</td>
<td></td>
</tr>
<tr>
<td>A line plot with Kelly’s lengths of ribbons is shown.



What is the total length, in inches, of the longest and shortest pieces of ribbon?</td>
<td>Equation Response</td>
<td></td>
</tr>
</table>

A line plot with Kelly's lengths of ribbons is shown.  What is the total length, in inches, for all pieces of ribbon?	Equation Response	
A line plot with Kelly's lengths of ribbons is shown. She adds another ribbon so that the difference between the longest and shortest piece of ribbon is $1\frac{1}{8}$ inches.  What length of ribbon, in inches, could Kelly have added?	Equation Response	
A line plot with Kelly's lengths of ribbons is shown. She uses the shortest ribbon and buys another of the longest ribbon.  How much longer is the total length, in inches, of ribbon now?	Table Response	

A line plot with Kelly's lengths of ribbons is shown. She adds two more ribbons so that the total length of ribbon that Kelly has is 200 inches.  **Ribbon Lengths (inches)** Complete the table to show two possible lengths of ribbon, in inches, Kelly could have added.	Table Response	