

MathFLIX CHALLENGE

Mathematical Modeling: Proportions at the Amusement Park

Read to Succeed is an exciting program that encourages students to read for fun. Students who complete six hours of recreational reading earn a free ticket to *Six Flags Great America (GA)*. **Anna, Gabrielle, Ari, Lou, Jamel, Amy, Jack, Lila, Emma, Sam, Pat Terri, Ian and Al** earned free tickets to *Great America*.

Study the example below to understand the pattern then complete the table.

| Problem | Model | ? # of Girls | ? # of Boys | Proportion (# of Girls) | Proportion (# of Boys) | | | | | | | | |
|---|--|-----------------|----------------|----------------------------|---------------------------|---|---|----|------------------------------|------------------------------|--|--|--|
| Anna saw 20 children riding on <i>Triple Play</i> . Gabrielle noted $\frac{1}{5}$ of the riders were girls. | <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td></tr></table> | 4 | 4 | 4 | 4 | 4 | 4 | 16 | $\frac{1}{5} = \frac{x}{20}$ | $\frac{4}{5} = \frac{x}{20}$ | | | |
| 4 | 4 | 4 | 4 | 4 | | | | | | | | | |
| Ari noticed 20 students in line for <i>American Eagle</i> . Lou noticed that $\frac{2}{5}$ of them were girls. | <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td></tr></table> | 4 | 4 | 4 | 4 | 4 | | | -- = -- | -- = -- | | | |
| 4 | 4 | 4 | 4 | 4 | | | | | | | | | |
| Jamel told Ari that $\frac{3}{5}$ of the riders on <i>Sky Tower</i> were males. Ari agreed. A sign posted near the ride said the capacity was 60 riders and it was full. | | | | -- = -- | -- = -- | | | | | | | | |
| Lou counted 32 seats on <i>Batman</i> . As he and Jamel took the last two seats, he noticed that $\frac{5}{8}$ of the riders were girls. | <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> | | | | | | | | | | | | |
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| There are 49 sixth graders at Benjamin Banneker School and $\frac{4}{7}$ are boys. | | | | | | | | | | | | | |
| There are 42 seventh graders at Carl Gauss School and $\frac{5}{6}$ are boys. | | | | | | | | | | | | | |
| There are 48 eighth graders at Sophie Germiane School and $\frac{3}{4}$ are girls. | | | | | | | | | | | | | |