Solve each problem using a tape diagram.

1) A store had 888 sodas, both diet and regular. The ratio of diet sodas to regular sodas was 8:4. How many diet sodas were there?

2) In August, Emily's Clothing Store sold 460 shirts with the ratio of short sleeve to long sleeve being 3:7. How many short sleeve shirts were sold?

3) A cable company had 595 subscribers. The ratio of regular subscribers to premium subscribers was 8:9. How many regular subscribers did they have?

4) John was looking at his streaming music stats. The ratio of songs he liked to disliked was 5:2. If he listened to 91 songs total how many did he like?

5) At the fair the ratio of male to females was 4:5. If there are 180 people at the fair how many males are there?
1) A store had 888 sodas, both diet and regular. The ratio of diet sodas to regular sodas was 8:4. How many diet sodas were there?

- **Diet**: [Diagram]
- **Regular**: [Diagram]

\[
\text{Diet} : \text{Regular} = 8 : 4
\]

\[
\text{Diet} = \frac{8}{8+4} \times 888 = \frac{8}{12} \times 888 = \frac{2}{3} \times 888 = 592
\]

2) In August, Emily's Clothing Store sold 460 shirts with the ratio of short sleeve to long sleeve being 3:7. How many short sleeve shirts were sold?

- **Short sleeve**: [Diagram]
- **Long sleeve**: [Diagram]

\[
\text{Short sleeve} : \text{Long sleeve} = 3 : 7
\]

\[
\text{Short sleeve} = \frac{3}{3+7} \times 460 = \frac{3}{10} \times 460 = 138
\]

3) A cable company had 595 subscribers. The ratio of regular subscribers to premium subscribers was 8:9. How many regular subscribers did they have?

- **Regular**: [Diagram]
- **Premium**: [Diagram]

\[
\text{Regular} : \text{Premium} = 8 : 9
\]

\[
\text{Regular} = \frac{8}{8+9} \times 595 = \frac{8}{17} \times 595 = 280
\]

4) John was looking at his streaming music stats. The ratio of songs he liked to disliked was 5:2. If he listened to 91 songs total how many did he like?

- **Like**: [Diagram]
- **Dislike**: [Diagram]

\[
\text{Like} : \text{Dislike} = 5 : 2
\]

\[
\text{Like} = \frac{5}{5+2} \times 91 = \frac{5}{7} \times 91 = 65
\]

5) At the fair the ratio of male to females was 4:5. If there are 180 people at the fair how many males are there?

- **Male**: [Diagram]
- **Female**: [Diagram]

\[
\text{Male} : \text{Female} = 4 : 5
\]

\[
\text{Male} = \frac{4}{4+5} \times 180 = \frac{4}{9} \times 180 = 80
\]
1) In August, Sarah's Clothing Store sold 220 shirts with the ratio of short sleeve to long sleeve being 7:3. How many short sleeve shirts were sold?

2) A cable company had 260 subscribers. The ratio of regular subscribers to premium subscribers was 10:3. How many regular subscribers did they have?

3) At the fair the ratio of male to females was 3:9. If there are 360 people at the fair how many males are there?

4) During an local election the ratio of teens to adults who voted was 10:9. If 1,387 people voted how many were teens?

5) Jerry's Ice Cream Hut had Chocolate or Vanilla shakes. On the 4th of July they sold 1,440 shakes total with the ratio of chocolate to vanilla being 6:9. How many chocolate shakes did they sell?
1) In August, Sarah's Clothing Store sold 220 shirts with the ratio of short sleeve to long sleeve being 7:3. How many short sleeve shirts were sold?

- Short: [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
- Long: [ ] [ ]

\[
\begin{align*}
\text{Total} & = 220 \\
\text{Ratio} & = 7:3 \\
\text{Short} & = \left(\frac{7}{10}\right) \times 220 = 154
\end{align*}
\]

2) A cable company had 260 subscribers. The ratio of regular subscribers to premium subscribers was 10:3. How many regular subscribers did they have?

- Regular: [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
- Premium: [ ] [ ] [ ] [ ]

\[
\begin{align*}
\text{Total} & = 260 \\
\text{Ratio} & = 10:3 \\
\text{Regular} & = \left(\frac{10}{13}\right) \times 260 = 200
\end{align*}
\]

3) At the fair the ratio of male to females was 3:9. If there are 360 people at the fair how many males are there?

- Male: [ ] [ ] [ ] [ ] [ ] [ ] [ ]
- Female: [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

\[
\begin{align*}
\text{Total} & = 360 \\
\text{Ratio} & = 3:9 \\
\text{Male} & = \left(\frac{3}{12}\right) \times 360 = 90
\end{align*}
\]

4) During an local election the ratio of teens to adults who voted was 10:9. If 1,387 people voted how many were teens?

- Teens: [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
- Adults: [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

\[
\begin{align*}
\text{Total} & = 1,387 \\
\text{Ratio} & = 10:9 \\
\text{Teens} & = \left(\frac{10}{19}\right) \times 1387 = 730
\end{align*}
\]

5) Jerry's Ice Cream Hut had Chocolate or Vanilla shakes. On the 4th of July they sold 1,440 shakes total with the ratio of chocolate to vanilla being 6:9. How many chocolate shakes did they sell?

- Chocolate: [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
- Vanilla: [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

\[
\begin{align*}
\text{Total} & = 1,440 \\
\text{Ratio} & = 6:9 \\
\text{Chocolate} & = \left(\frac{6}{15}\right) \times 1440 = 576
\end{align*}
\]
1) A store had 576 sodas, both diet and regular. The ratio of diet sodas to regular sodas was 5:7. How many diet sodas were there?

2) A cable company had 624 subscribers. The ratio of regular subscribers to premium subscribers was 10:2. How many regular subscribers did they have?

3) In August, Haley's Clothing Store sold 540 shirts with the ratio of short sleeve to long sleeve being 3:9. How many short sleeve shirts were sold?

4) During an local election the ratio of teens to adults who voted was 7:2. If 630 people voted how many were teens?

5) Jerry was looking at his streaming music stats. The ratio of songs he liked to disliked was 10:5. If he listened to 1,275 songs total how many did he like?
Solve each problem using a tape diagram.

1) A store had 576 sodas, both diet and regular. The ratio of diet sodas to regular sodas was 5:7. How many diet sodas were there?
   - diet
   - regular
   = 576

2) A cable company had 624 subscribers. The ratio of regular subscribers to premium subscribers was 10:2. How many regular subscribers did they have?
   - regular
   - premium
   = 624

3) In August, Haley's Clothing Store sold 540 shirts with the ratio of short sleeve to long sleeve being 3:9. How many short sleeve shirts were sold?
   - short
   - long
   = 540

4) During an local election the ratio of teens to adults who voted was 7:2. If 630 people voted how many were teens?
   - teens
   - adults
   = 630

5) Jerry was looking at his streaming music stats. The ratio of songs he liked to disliked was 10:5. If he listened to 1,275 songs total how many did he like?
   - like
   - dislike
   = 1,275
1) A cable company had 391 subscribers. The ratio of regular subscribers to premium subscribers was 9:8. How many regular subscribers did they have?

2) Henry was looking at his streaming music stats. The ratio of songs he liked to disliked was 7:3. If he listened to 220 songs total how many did he like?

3) A store had 1,170 sodas, both diet and regular. The ratio of diet sodas to regular sodas was 4:9. How many diet sodas were there?

4) During an local election the ratio of teens to adults who voted was 7:3. If 390 people voted how many were teens?

5) Jerry's Ice Cream Hut had Chocolate or Vanilla shakes. On the 4th of July they sold 512 shakes total with the ratio of chocolate to vanilla being 2:6. How many chocolate shakes did they sell?
Solve each problem using a tape diagram.

1) A cable company had 391 subscribers. The ratio of regular subscribers to premium subscribers was 9:8. How many regular subscribers did they have?

- Regular: [Diagram]
- Premium: [Diagram]

```
regular: ____________________________  
premium: ____________________________
```

2) Henry was looking at his streaming music stats. The ratio of songs he liked to disliked was 7:3. If he listened to 220 songs total how many did he like?

- Like: [Diagram]
- Dislike: [Diagram]

```
like: ____________________________
dislike: ________________________
```

3) A store had 1,170 sodas, both diet and regular. The ratio of diet sodas to regular sodas was 4:9. How many diet sodas were there?

- Diet: [Diagram]
- Regular: [Diagram]

```
diet: ____________________________
regular: ____________________________
```

4) During an local election the ratio of teens to adults who voted was 7:3. If 390 people voted how many were teens?

- Teens: [Diagram]
- Adults: [Diagram]

```
teens: ____________________________
adults: ____________________________
```

5) Jerry's Ice Cream Hut had Chocolate or Vanilla shakes. On the 4th of July they sold 512 shakes total with the ratio of chocolate to vanilla being 2:6. How many chocolate shakes did they sell?

- Chocolate: [Diagram]
- Vanilla: [Diagram]

```
chocolate: ____________________________
vanilla: ____________________________
```

Answers:

1. 207
2. 154
3. 360
4. 273
5. 128
Solve each problem using a tape diagram.

1) Cody was looking at his streaming music stats. The ratio of songs he liked to disliked was 5:6. If he listened to 1,078 songs total how many did he like?

2) At the fair the ratio of male to females was 10:4. If there are 1,120 people at the fair how many males are there?

3) A store had 592 sodas, both diet and regular. The ratio of diet sodas to regular sodas was 10:6. How many diet sodas were there?

4) During an local election the ratio of teens to adults who voted was 2:3. If 85 people voted how many were teens?

5) Jerry's Ice Cream Hut had Chocolate or Vanilla shakes. On the 4th of July they sold 286 shakes total with the ratio of chocolate to vanilla being 3:10. How many chocolate shakes did they sell?
Solve each problem using a tape diagram.

1) Cody was looking at his streaming music stats. The ratio of songs he liked to disliked was 5:6. If he listened to 1,078 songs total how many did he like?

   like   dislike   \[\begin{array}{c}
   \text{like} \\
   \text{dislike}
   \end{array}\] \[1,078\]

2) At the fair the ratio of male to females was 10:4. If there are 1,120 people at the fair how many males are there?

   male   female   \[\begin{array}{c}
   \text{male} \\
   \text{female}
   \end{array}\] \[1,120\]

3) A store had 592 sodas, both diet and regular. The ratio of diet sodas to regular sodas was 10:6. How many diet sodas were there?

   diet   regular   \[\begin{array}{c}
   \text{diet} \\
   \text{regular}
   \end{array}\] \[592\]

4) During an local election the ratio of teens to adults who voted was 2:3. If 85 people voted how many were teens?

   teens   adults   \[\begin{array}{c}
   \text{teens} \\
   \text{adults}
   \end{array}\] \[85\]

5) Jerry's Ice Cream Hut had Chocolate or Vanilla shakes. On the 4th of July they sold 286 shakes total with the ratio of chocolate to vanilla being 3:10. How many chocolate shakes did they sell?

   chocolate   vanilla   \[\begin{array}{c}
   \text{chocolate} \\
   \text{vanilla}
   \end{array}\] \[286\]
Solve each problem using a tape diagram.

1) During an local election the ratio of teens to adults who voted was 9:2. If 627 people voted how many were teens?

2) A cable company had 187 subscribers. The ratio of regular subscribers to premium subscribers was 10:7. How many regular subscribers did they have?

3) In August, Haley's Clothing Store sold 1,504 shirts with the ratio of short sleeve to long sleeve being 10:6. How many short sleeve shirts were sold?

4) At the fair the ratio of male to females was 5:7. If there are 780 people at the fair how many males are there?

5) Jerry's Ice Cream Hut had Chocolate or Vanilla shakes. On the 4th of July they sold 784 shakes total with the ratio of chocolate to vanilla being 2:6. How many chocolate shakes did they sell?

Answers
1. 
2. 
3. 
4. 
5. 

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Solve each problem using a tape diagram.

1) During an local election the ratio of teens to adults who voted was 9:2. If 627 people voted how many were teens?

- Teens: [Diagram]
- Adults: [Diagram]

\[
\text{Total votes} = 627
\]

2) A cable company had 187 subscribers. The ratio of regular subscribers to premium subscribers was 10:7. How many regular subscribers did they have?

- Regular: [Diagram]
- Premium: [Diagram]

\[
\text{Total subscribers} = 187
\]

3) In August, Haley's Clothing Store sold 1,504 shirts with the ratio of short sleeve to long sleeve being 10:6. How many short sleeve shirts were sold?

- Short: [Diagram]
- Long: [Diagram]

\[
\text{Total shirts} = 1,504
\]

4) At the fair the ratio of male to females was 5:7. If there are 780 people at the fair how many males are there?

- Male: [Diagram]
- Female: [Diagram]

\[
\text{Total people} = 780
\]

5) Jerry's Ice Cream Hut had Chocolate or Vanilla shakes. On the 4th of July they sold 784 shakes total with the ratio of chocolate to vanilla being 2:6. How many chocolate shakes did they sell?

- Chocolate: [Diagram]
- Vanilla: [Diagram]

\[
\text{Total shakes} = 784
\]
1) During an election, the ratio of teens to adults who voted was 4:8. If 288 people voted, how many were teens?

2) Henry was looking at his streaming music stats. The ratio of songs he liked to disliked was 6:4. If he listened to 120 songs total, how many did he like?

3) A store had 405 sodas, both diet and regular. The ratio of diet sodas to regular sodas was 8:7. How many diet sodas were there?

4) In August, Nancy's Clothing Store sold 728 shirts with the ratio of short sleeve to long sleeve being 4:10. How many short sleeve shirts were sold?

5) Jerry's Ice Cream Hut had Chocolate or Vanilla shakes. On the 4th of July, they sold 1,598 shakes total with the ratio of chocolate to vanilla being 9:8. How many chocolate shakes did they sell?
Solve each problem using a tape diagram.

1) During an election the ratio of teens to adults who voted was 4:8. If 288 people voted how many were teens?

   teens
   adults

\[ \text{288} \]

2) Henry was looking at his streaming music stats. The ratio of songs he liked to disliked was 6:4. If he listened to 120 songs total how many did he like?

   like
   dislike

\[ \text{120} \]

3) A store had 405 sodas, both diet and regular. The ratio of diet sodas to regular sodas was 8:7. How many diet sodas were there?

   diet
   regular

\[ \text{405} \]

4) In August, Nancy's Clothing Store sold 728 shirts with the ratio of short sleeve to long sleeve being 4:10. How many short sleeve shirts were sold?

   short
   long

\[ \text{728} \]

5) Jerry's Ice Cream Hut had Chocolate or Vanilla shakes. On the 4th of July they sold 1,598 shakes total with the ratio of chocolate to vanilla being 9:8. How many chocolate shakes did they sell?

   chocolate
   vanilla

\[ \text{1,598} \]
1) A store had 426 sodas, both diet and regular. The ratio of diet sodas to regular sodas was 4:2. How many diet sodas were there?

2) During an election the ratio of teens to adults who voted was 9:10. If 456 people voted how many were teens?

3) In August, Haley's Clothing Store sold 468 shirts with the ratio of short sleeve to long sleeve being 2:7. How many short sleeve shirts were sold?

4) A cable company had 432 subscribers. The ratio of regular subscribers to premium subscribers was 5:4. How many regular subscribers did they have?

5) Jerry's Ice Cream Hut had Chocolate or Vanilla shakes. On the 4th of July they sold 972 shakes total with the ratio of chocolate to vanilla being 5:7. How many chocolate shakes did they sell?
Solve each problem using a tape diagram.

1) A store had 426 sodas, both diet and regular. The ratio of diet sodas to regular sodas was 4:2. How many diet sodas were there?

```
diet'-----------'---'---'---'---'---'---'---'---'---'---'---'---'---'---'---'---'
regular'--------'---'---'---'---'---'---'---'---'---'---'---'---'---'---'---'---'
```

\[ \text{diet} : \text{regular} = 4 : 2 \]
\[ 4x + 2x = 426 \]
\[ 6x = 426 \]
\[ x = 71 \]
\[ \text{diet} = 4x = 4 \times 71 = 284 \]

2) During an election the ratio of teens to adults who voted was 9:10. If 456 people voted how many were teens?

```
teens'-------------'------------'------------'------------'------------'------------'
adults'-----------'------------'------------'------------'------------'------------'
```

\[ \text{teens} : \text{adults} = 9 : 10 \]
\[ 9x + 10x = 456 \]
\[ 19x = 456 \]
\[ x = 24 \]
\[ \text{teens} = 9x = 9 \times 24 = 216 \]

3) In August, Haley's Clothing Store sold 468 shirts with the ratio of short sleeve to long sleeve being 2:7. How many short sleeve shirts were sold?

```
short'--------'--------'--------'--------'--------'--------'
long'--------'--------'--------'--------'--------'--------'
```

\[ \text{short} : \text{long} = 2 : 7 \]
\[ 2x + 7x = 468 \]
\[ 9x = 468 \]
\[ x = 52 \]
\[ \text{short} = 2x = 2 \times 52 = 104 \]

4) A cable company had 432 subscribers. The ratio of regular subscribers to premium subscribers was 5:4. How many regular subscribers did they have?

```
regular'---------'---------'---------'---------'---------'---------'
premium'--------'--------'--------'--------'--------'--------'
```

\[ \text{regular} : \text{premium} = 5 : 4 \]
\[ 5x + 4x = 432 \]
\[ 9x = 432 \]
\[ x = 48 \]
\[ \text{regular} = 5x = 5 \times 48 = 240 \]

5) Jerry's Ice Cream Hut had Chocolate or Vanilla shakes. On the 4th of July they sold 972 shakes total with the ratio of chocolate to vanilla being 5:7. How many chocolate shakes did they sell?

```
chocolate'--------'--------'--------'--------'--------'--------'--------'
vanilla'--------'--------'--------'--------'--------'--------'--------'
```

\[ \text{chocolate} : \text{vanilla} = 5 : 7 \]
\[ 5x + 7x = 972 \]
\[ 12x = 972 \]
\[ x = 81 \]
\[ \text{chocolate} = 5x = 5 \times 81 = 405 \]
1) A store had 1,288 sodas, both diet and regular. The ratio of diet sodas to regular sodas was 10:4. How many diet sodas were there?

2) Henry was looking at his streaming music stats. The ratio of songs he liked to disliked was 3:5. If he listened to 784 songs total how many did he like?

3) In August, Haley's Clothing Store sold 266 shirts with the ratio of short sleeve to long sleeve being 10:9. How many short sleeve shirts were sold?

4) At the fair the ratio of male to females was 5:2. If there are 658 people at the fair how many males are there?

5) During an local election the ratio of teens to adults who voted was 10:8. If 1,764 people voted how many were teens?
1) A store had 1,288 sodas, both diet and regular. The ratio of diet sodas to regular sodas was 10:4. How many diet sodas were there?

\[
\text{diet} \quad \frac{10}{14} \quad 1,288
\]

2) Henry was looking at his streaming music stats. The ratio of songs he liked to disliked was 3:5. If he listened to 784 songs total how many did he like?

\[
\text{like} \quad \frac{3}{8} \quad 784
\]

3) In August, Haley's Clothing Store sold 266 shirts with the ratio of short sleeve to long sleeve being 10:9. How many short sleeve shirts were sold?

\[
\text{short} \quad \frac{10}{19} \quad 266
\]

4) At the fair the ratio of male to females was 5:2. If there are 658 people at the fair how many males are there?

\[
\text{male} \quad \frac{5}{7} \quad 658
\]

5) During an local election the ratio of teens to adults who voted was 10:8. If 1,764 people voted how many were teens?

\[
\text{teens} \quad \frac{10}{18} \quad 1,764
\]
1) A store had 210 sodas, both diet and regular. The ratio of diet sodas to regular sodas was 5:2. How many diet sodas were there?

2) Henry was looking at his streaming music stats. The ratio of songs he liked to disliked was 2:8. If he listened to 890 songs total how many did he like?

3) During an local election the ratio of teens to adults who voted was 5:10. If 945 people voted how many were teens?

4) In August, Nancy's Clothing Store sold 266 shirts with the ratio of short sleeve to long sleeve being 4:10. How many short sleeve shirts were sold?

5) A cable company had 228 subscribers. The ratio of regular subscribers to premium subscribers was 9:3. How many regular subscribers did they have?
1) A store had 210 sodas, both diet and regular. The ratio of diet sodas to regular sodas was 5:2. How many diet sodas were there?

\[
\text{diet } \boxed{} \quad \text{regular } \boxed{} \quad \text{Total: } 210
\]

2) Henry was looking at his streaming music stats. The ratio of songs he liked to disliked was 2:8. If he listened to 890 songs total how many did he like?

\[
\text{like } \boxed{} \quad \text{dislike } \boxed{} \quad \text{Total: } 890
\]

3) During an local election the ratio of teens to adults who voted was 5:10. If 945 people voted how many were teens?

\[
\text{teens } \boxed{} \quad \text{adults } \boxed{} \quad \text{Total: } 945
\]

4) In August, Nancy's Clothing Store sold 266 shirts with the ratio of short sleeve to long sleeve being 4:10. How many short sleeve shirts were sold?

\[
\text{short } \boxed{} \quad \text{long } \boxed{} \quad \text{Total: } 266
\]

5) A cable company had 228 subscribers. The ratio of regular subscribers to premium subscribers was 9:3. How many regular subscribers did they have?

\[
\text{regular } \boxed{} \quad \text{premium } \boxed{} \quad \text{Total: } 228
\]