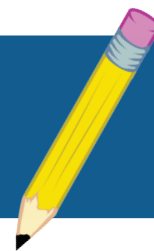




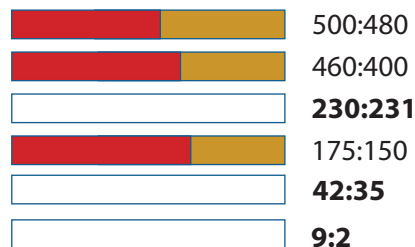
# Atlantean Dodgeball Learner Guide



Watch the animation, *Atlantean Dodgeball*, and complete these activities. The animation and an instructor guide are available on iTunes U (search "Math Snacks") and at [mathsnacks.org](http://mathsnacks.org)

1. In the Atlantean dodgeball tournament, both teams had lost about half of their members going into the final round. The Sea Urchins' coach looked at the team sizes of 500 and 480 and was happy that the teams were still fairly evenly matched (close to a 1:1 ratio). The Belugas' coach was upset because the Sea Urchins had 20 more players (a 20-player difference).

A. Fill in the empty bar graphs to estimate the ratios of Sea Urchins to Belugas as the score changes during the tournament.



B. A newspaper reports that the final ratio of the tournament was 2:9. Are they correct? Why or why not?

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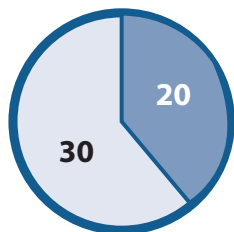
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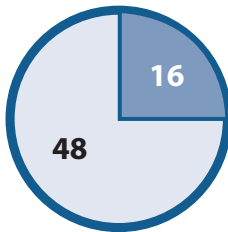
2. Here are three pie charts that show wins and losses as parts of the total games played. Fill in the empty circle with the ratio of wins to losses for Metro City.

Small Town lost 20 out of 50 games.



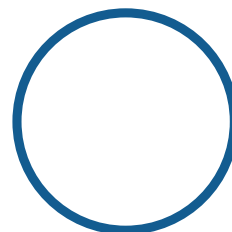
50 Total

Big City lost 16 out of 64 games.



64 Total

Metro City lost 9 out of 45 games.



45 Total

A. Who do you think is the biggest loser? Why?

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B. What is the ratio of games lost to total games for each team? Write your answer as a fraction.

| Team Name  | Ratio | Fraction | Simplified Fraction | Decimal | Percentage of games lost |
|------------|-------|----------|---------------------|---------|--------------------------|
| Small Town | 20:50 | 20/50    | 2/5                 | 0.40    | 40%                      |
| Big City   |       |          |                     |         |                          |
| Metro City |       |          |                     |         |                          |

3. You and your friend, Joe, are arguing about which baseball team is the best. Big City's baseball team, Joe's favorite, had 48 wins and 16 losses for the season. You think your team, Metro City, has a better record because it lost fewer games. Joe thinks his team has a better record because they won more games.

Try to settle the argument by filling out the table below.



| Team       | Games | Wins | Losses | Win to Loss Ratio | Wins to Total Ratio | Losses to Total Ratio |
|------------|-------|------|--------|-------------------|---------------------|-----------------------|
| Small Town | 50    | 30   | 20     | 30:20             | 30:50               |                       |
| Big City   | 64    | 48   | 16     |                   |                     |                       |
| Metro City | 45    | 36   | 9      |                   |                     |                       |

A. How are the ratios of Win:Loss, Wins:Total, and Losses:Total related?

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B. Use one or all of these ratios to decide which team has the best record for the season. Explain your answer and show your work.

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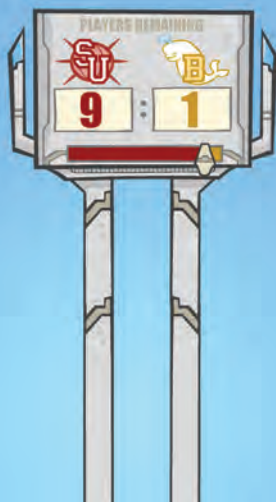
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4. 9:1 is the ratio of Sea Urchin players to Beluga players. Is this a part to part or part to whole ratio?

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A. Describe how this ratio can be represented in fraction form.

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