

# MATH SNACKS

## Atlantean Dodgeball Learner Guide

Watch the animation *Atlantean Dodgeball* and complete these activities. The animation is available on iTunes U (search for "Math Snacks") and at [mathsnacks.com](http://mathsnacks.com)

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

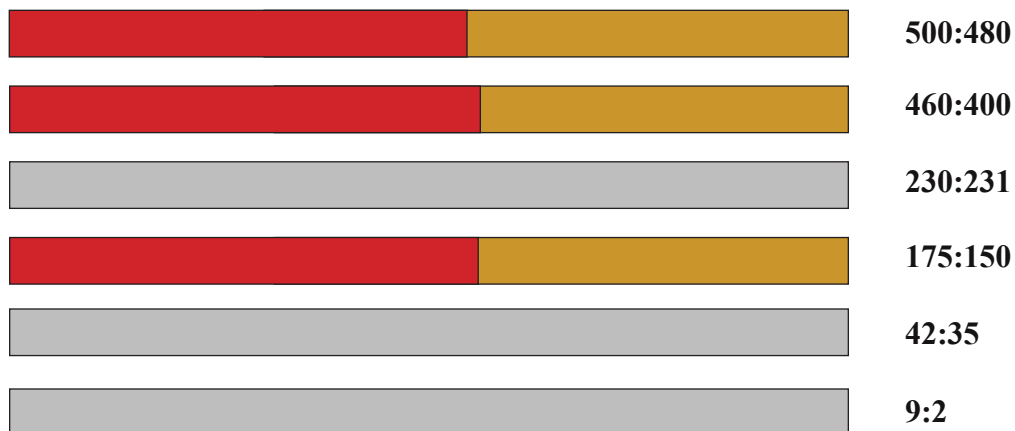
Fill in the empty bar graphs below to estimate ratios of Sea Urchin to Beluga players as the score changes during the tournament.



Urchins



Belugas



- A. Looking at the bar graphs, at what point do you think the Belugas lost the tournament? Why?

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2. A. Now compute the difference in the two teams' scores and fill in the chart.

B. At what point was the difference in team numbers the greatest?

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C. The Beluga's Coach tended to look at the difference, when he should have been comparing ratio. In what round of the tournament do you think the Belugas coach would have been the most upset?

\_\_\_\_\_

	Score		Difference
	Urchins	Belugas	
Round 1	500	480	20
Round 2	460	400	60
Round 3	302	310	
Round 4	230	231	
Round 5	175	150	
Round 6	42	35	
Round 7	9	2	

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. Your favorite team, Metro City, won 36 games, but lost 9. Joe thinks that his team has a better record because it lost fewer games. You think that your team had a better record. Settle the argument by figuring out the win to loss ratio for each team and filling out the table below.

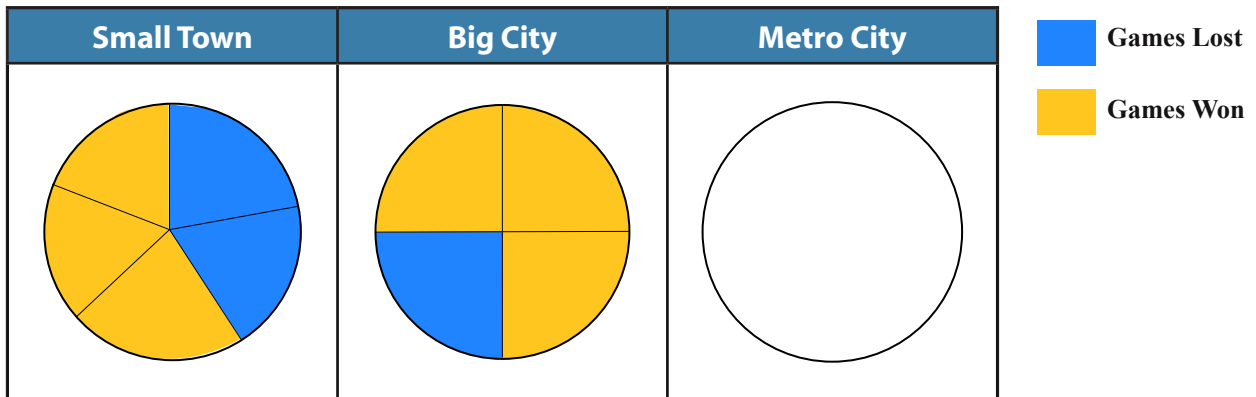
Team	Total; Game	Wins	Losses	Ratio	Reduced Ratio
Small Town team	50	30	20	30:20	3:2
Big City team	64	48	16		
Metro City team	45	36	9		

Which team had the best record? Draw a graph or picture that compares win-loss ratios for Big City and Metro City teams.

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4. Sally judges the teams a bit differently, and looks for the biggest loser, based on total games played. A ratio can also express the relationship between a part and a whole. Pie charts are often used to illustrate this relationship.

A. Here are three pie charts that can show wins and losses as parts of the total games played. The Small Town Team won 20 out of 50 games. Big City won 16 out of 64 games. Metro City won 9 of 45 games. When parts are compared to a whole, the ratio is often written as a fraction.



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

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

Games lost: total games played

Small town: 20/50

Big City \_\_\_\_\_ or \_\_\_\_\_

Metro City \_\_\_\_\_ or \_\_\_\_\_



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