Name Date

Enrichment and Extension

5.4

Sports Statistics and Proportions

In baseball, WHIP is a pitching statistic used to find the average number of walks and hits allowed per inning. It is calculated by adding the walks and hits that a pitcher allows and then dividing that by the number of innings pitched.



In hockey, a goalie’s save percentage is the number of saves divided by the number of shots on goal.



 1. A pitcher allowed 26 walks and 104 hits in 85 innings pitched. What is his WHIP? Round your answer to the nearest hundredth.

 2. The pitcher in Exercise 1 wants to lower his WHIP to 1.3. How many more innings would he have to pitch without any walks or hits? Is this a reasonable goal? Explain your reasoning.

 3. Another pitcher has a WHIP of 1.28 with 92 hits in 82 innings pitched. How many walks has he allowed? Explain how you used proportions to get your answer.

 4. The pitcher from Exercise 3 wants to keep his WHIP under 1.3. How many more hits and walks can he allow in the next 9 innings? Is this a reasonable goal? Explain your reasoning.

 5. A goalie has a save percentage of 0.914 after playing his first 6 games.
He has made 191 saves. How many shots on goal has he faced?

 6. Another goalie has a save percentage of 0.907 with 204 saves in his first
6 games. Your friend says that you could find their combined save percentage by adding 0.907 and 0.914 and then dividing by 2. Explain
why this is incorrect. Then show how you would correctly calculate their combined save percentage. Round your answer to the nearest thousandth.

 7. The goalie from Exercise 5 wants to finish the next game with an overall save percentage of 0.925. How many shots on goal would he have to face without allowing any goals? Based on the goalie’s first 6 games, is it reasonable for
him to achieve this goal in one game? Explain your reasoning.