

Pre-Algebra
Ratios, Proportions, and Probability
Example 1

Ratios and Rates

1. You shoot 15 free throws and make 7. Write the ratio of Made Free throws to Total Free throws taken and the ratio of made free throws to missed free throws.
2. You swing at 20 fast-pitch balls. You hit 9, foul 3, and strike on 8 of the pitches. Write the ratio of hit pitches to strike pitches, the ratio of fouls to hits, and the ratio of hits to total pitches.

1. MADE TO TOTAL = 7:15
MADE TO MISSED \rightarrow MISSED = TOTAL - MADE = 15 - 7 = 8
 \therefore MADE TO MISSED = 7:8

2. HIT TO STRIKE = 9:8
FOUL TO HIT = 3:9 \rightarrow simplifies to 1:3
HIT TO TOTAL = 9:20

3. On a road trip you travel 250 miles in 3 hours. What is your average rate in mph?
4. You spend 3 hours doing yard work for a neighbor and they pay you \$50.00. How much money did you make per hour?

3. $\frac{250 \text{ miles}}{3 \text{ hours}} = 3 \overline{) 250.00} = 83.33 \text{ mph}$

$\approx \underline{\underline{83 \text{ mph}}}$

4. $\frac{\$50}{3 \text{ hr}} = 3 \overline{) 50.00} = 16.66 \text{ dollar/hour}$

$\approx \underline{\underline{\$16.67/\text{hr}}}$