# 9/19/2024 – Ratios & Rates

***Review of Unit 2 for Grade 6 Math (6R and 6A) – Fun theme: Speed***

*Questions to follow along with show.* Watch: Math Homework Hotline

1) A NASCAR racing team has a win to loss ratio of 10:6. What is their ratio of wins to total events entered?

2) 20 rims and 84 tires are being replaced. What is the ratio of tires to rims that are being replaced?

3) Complete the ratio table.

| | | | |
|---|---|---|---|
| Girls (part) | 5 | | |
| Boys (part) | | 14 | |
| Students (whole) | 12 | | 60 |

4) Complete the ratio table.

| | | | | |
|---|---|---|---|---|
| Left-handed (part) | | 15 | 27 | |
| Right-handed (part) | 7 | | 63 | 77 |
| Pitchers (whole) | 10 | 50 | | |

5) The ball traveled 80 feet in 6.4 seconds, what is the unit rate in feet per second?

6) John sold 25 jumbo cinnamon buns to spectators of the cross-country race and made $190. Find the unit price.

7) Lucinda prepared for her basketball showcase by counting how many baskets she made every practice. After seven practices, she had made 637 baskets. What is the unit rate?

8) In soccer, midfielders often cover 9-12 kilometers per game, blending endurance with speed. How many meters per game are midfielders covering?

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9) A bus route covered 372 miles in 6 hours. At this rate, how long will it take to cover 124 miles?

10) You survey students in your morning classes to determine who brings their lunch from home and who buys their lunch in the cafeteria.

| | Period 1 | Period 2 | Period 3 |
|---|---|---|---|
| Brings Lunch | 8 | 6 | 8 |
| Buys Lunch | 12 | 15 | 10 |

a) What is the ratio of those who bring lunch to those who buy lunch?

b) What class period has the lowest ratio for those who bring lunch to those who buy lunch?

11) Carlos is training for a triathlon. In his last practice session, he swam 1.5 kilometers in 45 minutes, biked 40 kilometers in 2 hours, and ran 10 kilometers in 50 minutes.

Calculate his average speed for each part of the triathlon in kilometers per hour. Which part did he complete at the fastest average speed?

12) Sarah and her friend Emma are having a bicycle race. Sarah rides at a speed of 12 miles per hour, while Emma rides at 15 miles per hour.

If they start at the same time and ride for 22 hours, how much farther will Emma have ridden compared to Sarah?

13) EXTENSION

Two trains leave different stations at the same time, traveling towards each other on parallel tracks.

- Train A travels at 60 miles per hour
- Train B travels at 75 miles per hour

Part A. If the stations are 405 miles apart, how long will it take for the trains to meet?

14) EXTENSION

Two trains leave different stations at the same time, traveling towards each other on parallel tracks.

- Train A travels at 60 miles per hour
- Train B travels at 75 miles per hour

Part B. After they meet, how much longer before each train will reach their respective station?