Ratio Practice

Name: _____   Date: _____

Question 1

Convert to ratio notation without simplifying (either fraction or colon notation)

I. The Lizards defeated the Coyotes in the regional basketball championship. The Lizards scored 105 points, and the Coyotes scored 99 points.
    (A) What is the ratio of the Lizard's points to the Coyote's points?
    (B) What is the ratio of the Coyote's points to the Lizard's points?

II. The wind speed in Lyon was 8 miles per hour on Boxing Day. The wind speed in Geneva was 6 miles per hour on the same day.
    (A) What is the ratio of Lyon's wind speed to Geneva's wind speed?
    (B) What is the ratio of Geneva's wind speed to Lyon's wind speed?

III. Delphine has seventy-three blocks, and Eloise has thirty-one blocks.
    (A) What is the ratio of Delphine's blocks to Eloise's blocks?
    (B) What is the ratio of Eloise's blocks to Delphine's blocks?

Ratio Practice

Question 2

Convert to ratio notation and simplify (either fraction or colon notation)

I.   Clementine travels from Bordeaux to Marseille. She travels 720 kilometers in 9 hours.
    What is the ratio of kilometers per hour?

II. Captain Gregg travels fifteen nautical miles over five days. What is the ratio of nautical miles per day?

III. Burt travels by muscle car from Atlanta to Texarkana. The trip takes 9 hours, and Burt travels 657 miles.
    What is the ratio of miles per hour?

Ratio Practice

Question 3

Solve the ratio using division

I. A graduated cylinder filled with 5 milliliters of HPLC-grade acetone is found to have a mass of 3.95 grams at room temperature. What is the density (g/mL) of the acetone?

II. Camille is attending college this year and pays €12,547 for her classes this quarter. If Camille is taking four classes this quarter, what is the cost per class?

III. If three and three-fourths inches of caulk is applied evenly to the side of a twenty-one and one-half inch long plank, how many inches of caulk is applied per inch of the plank?
(round to the nearest thousandth)

Ratio Practice

Question 1

Convert to ratio notation without simplifying (either fraction or colon notation)

I. The Lizards defeated the Coyotes in the regional basketball championship. The Lizards scored 105 points, and the Coyotes scored 99 points.
(A) What is the ratio of the Lizard's points to the Coyote's points?
(B) What is the ratio of the Coyote's points to the Lizard's points?

(A) $\dfrac{105 \text{ Lizard's points}}{99 \text{ Coyote's points}}$ 105 Lizard's points : 99 Coyote's points

(B) $\dfrac{99 \text{ Coyote's points}}{105 \text{ Lizard's points}}$ 99 Coyote's points : 105 Lizard's points

II. The wind speed in Lyon was 8 miles per hour on Boxing Day. The wind speed in Geneva was 6 miles per hour on the same day.
(A) What is the ratio of Lyon's wind speed to Geneva's wind speed?
(B) What is the ratio of Geneva's wind speed to Lyon's wind speed?

(A) $\dfrac{8 \text{ Lyon's wind speed (mph)}}{6 \text{ Geneva's wind speed (mph)}}$ 8 mph (Lyon) : 6 mph (Geneva)

(B) $\dfrac{6 \text{ Geneva's wind speed (mph)}}{8 \text{ Lyon's wind speed (mph)}}$ 6 mph (Geneva) : 8 mph (Lyon)

III. Delphine has seventy-three blocks, and Eloise has thirty-one blocks.
(A) What is the ratio of Delphine's blocks to Eloise's blocks?
(B) What is the ratio of Eloise's blocks to Delphine's blocks?

(A) $\dfrac{73 \text{ Delphine's blocks}}{31 \text{ Eloise's blocks}}$ 73 Delphine's blocks : 31 Eloise's blocks

(B) $\dfrac{31 \text{ Eloise's blocks}}{73 \text{ Delphine's blocks}}$ 31 Eloise's blocks : 73 Delphine's blocks

Ratio Practice

Question 2

Convert to ratio notation and simplify (either fraction or colon notation)

I. Clementine travels from Bordeaux to Marseille. She travels 720 kilometers in 9 hours.
    What is the ratio of kilometers per hour?

$$\frac{720 \text{ kilometers}}{9 \text{ hours}} \longrightarrow \frac{720 \text{ kilometers} \div 9}{9 \text{ hours} \div 9} = \frac{80 \text{ kilometers}}{1 \text{ hour}}$$

OR

80   kilometers   :   1   hour

II. Captain Gregg travels fifteen nautical miles over five days. What is the ratio of nautical miles per day?

$$\frac{15 \text{ nautical miles}}{5 \text{ days}} \longrightarrow \frac{15 \text{ nautical miles} \div 5}{5 \text{ days} \div 5} = \frac{3 \text{ nautical miles}}{1 \text{ day}}$$

OR

3   nautical miles   :   1   day

III. Burt travels by muscle car from Atlanta to Texarkana. The trip takes 9 hours, and Burt travels 657 miles.
     What is the ratio of miles per hour?

$$\frac{657 \text{ miles}}{9 \text{ hours}} \longrightarrow \frac{657 \text{ miles} \div 9}{9 \text{ hours} \div 9} = \frac{73 \text{ miles}}{1 \text{ hour}}$$

OR

73   miles   :   1   hour

Ratio Practice

Question 3

Solve the ratio using division

I. A graduated cylinder filled with 5 milliliters of HPLC-grade acetone is found to have a mass of 3.95 grams at room temperature. What is the density (g/mL) of the acetone?

$$\frac{3.95 \text{ grams}}{5 \text{ milliliters}} \longrightarrow 5\overline{)3.95} \longrightarrow 5\overline{)3.95}$$

$$\begin{array}{r} 0.79 \\ 5\overline{)3.95} \\ \underline{35}\downarrow \\ 45 \\ \underline{45} \\ 0 \end{array}$$

$\longrightarrow$ 0.79 grams/milliliters

II. Camille is attending college this year and pays €12,547 for her classes this quarter. If Camille is taking four classes this quarter, what is the cost per class?

$$\frac{12{,}547 \text{ euros}}{4 \text{ classes}} \longrightarrow 4\overline{)12{,}547} \longrightarrow$$

$$\begin{array}{r} 03136.75 \\ 4\overline{)12{,}547.00} \\ \underline{12}\downarrow \\ 05 \\ \underline{4}\downarrow \\ 14 \\ \underline{12}\downarrow \\ 27 \\ \underline{24}\downarrow \\ 30 \\ \underline{28}\downarrow \\ 20 \\ \underline{20} \\ 0 \end{array}$$

$\longrightarrow$ 3136.75 euros/class

III. If three and three-fourths inches of caulk is applied evenly to the side of a twenty-one and one-half inch long plank, how many inches of caulk is applied per inch of the plank?
(round to the nearest thousandth)

$$\frac{3\frac{3}{4} \text{ inches of caulk}}{21\frac{1}{2} \text{ inches of plank}} \longrightarrow \frac{\frac{15}{4} \text{ inches of caulk}}{\frac{43}{2} \text{ inches of plank}} \longrightarrow \frac{15}{4} \cdot \frac{2}{43} = \frac{30}{172} \longrightarrow \frac{15}{86}$$

$$\begin{array}{r} 00.1744 \\ 86\overline{)15.0000} \\ \underline{086}\downarrow \\ 640 \\ \underline{602}\downarrow \\ 380 \\ \underline{344}\downarrow \\ 360 \\ \underline{344} \\ 16 \end{array}$$

$\frac{15}{86}$

0.174 inches of caulk/inch of plank $\longleftarrow$