

Exploring Ratios – Expert

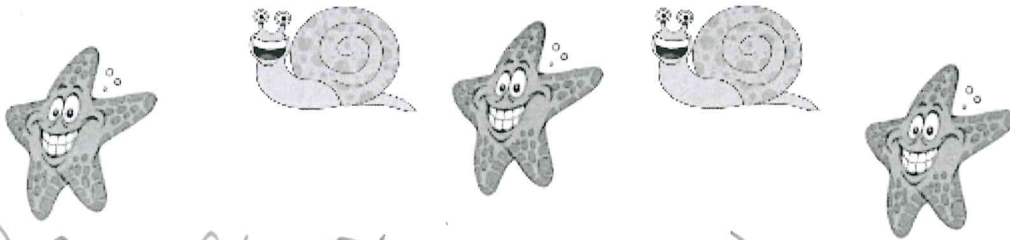
Name: _____

Learning Goals:

1. I will be able to understand and use two and three term ratios in word problems
2. I will be able to make equivalent ratios
3. I will be able to compare ratios

Learning Goal #1: Ratios

1. Write two ratios from the below picture, making sure you identify each ratio. Write each ratio in the three different ways a ratio can be written.



ex) 3 starfish : 5 total
 $\frac{3}{5} = 60\%$

ex) 2 snail : 5 total
 $\frac{2}{5} = 40\%$

2. The ratio of cats to dogs to hamsters is 22:6:12. Put this in lowest terms

$22:6:12 = 3.7:1:2$
 $\div 6 \quad \div 6 \quad \div 6$

3. The ratio of soccer balls to basketballs to baseballs is 3:2:4. If there are 11 basketballs, how many soccer balls are there? Show your work.

$3:2:4 = 16.5:11:22$
 $\times 5.5 \quad \times 5.5 \quad \times 5.5$

$$\begin{array}{r} 5.5 \\ 2 \overline{) 11.0} \\ \underline{-10} \\ 10 \\ \underline{-10} \\ 0 \end{array}$$

Learning Goal #2: Equivalent Ratios

1. List four equivalent ratios for 5:13

- a. $\frac{10}{26}$
- b. $\frac{15}{39}$
- c. $\frac{20}{52}$
- d. $\frac{30}{78}$

Answers vary

2. There are 96 students in the grade 8 SMS population. The ratio of boys to girls is 5:7. How many boys are there? Show your work?

$\frac{5}{12} = \frac{x}{96}$

$\frac{5 \times 8}{12 \times 8} = \frac{40}{96}$

There are 40 boys.

3. Xavier makes almond bark for Christmas treats. The recipe calls for 2 cups almonds for every 5 cups chocolate. Raina uses 5 cups almonds. How many cups of chocolate does she need to use? Show your work...

$$2:5 = 5:12.5$$

x2.5 x2.5

12.5 cups of chocolate

Learning Goal #3: Comparing Ratios

1. Make the following ratio with the first term "1"

a. $4:12 \rightarrow 1:3$

b. $5:9 \rightarrow 1:1.8$

c. $2:7 \rightarrow 1:3.5$

d. $3:20 \rightarrow 1:6.7$

2. In a basketball game, Gurshan made 6 of 13 free throw shots. Grace made 3 of 7. Who had more free throw shots? Explain your answer:

$$\frac{6 \times 7}{13 \times 7}$$

$$\frac{3 \times 13}{7 \times 13}$$

$$= \frac{42}{91} \quad \frac{39}{91}$$

Gurshan had more free throw shots.

3. There are two jugs of Kool-aid made. Jug A is made using 2 packages of crystals to 3 cups of water. Jug B is made using 3 cups of crystals and 4 cups of water. Which is stronger? Justify your answer.

$$\frac{2 \times 4}{3 \times 4} \quad \frac{3 \times 3}{4 \times 3} = \frac{8}{12} \quad \frac{9}{12}$$

Jug B is stronger

4. Mrs. Arcuri makes her coffee with 2 scoops of coffee to 5 cups of water. Mr. Bond makes his coffee with 3 scoops of coffee to 7 cups of water. Which is stronger coffee? Justify your answer.

$$\frac{2 \times 7}{5 \times 7} \quad \frac{3 \times 5}{7 \times 5} = \frac{14}{35} \quad \frac{15}{35}$$

Mr. Bond has stronger coffee.

5. In the hockey skills competition Sydney scored on 13 out of 15 shots on net. Austin scored on 11 out of 13 shots of net. Who played better in the skills competition? Justify your answer.

$$\frac{13 \times 13}{15 \times 13} \quad \frac{11 \times 15}{13 \times 15} = \frac{169}{195} \quad \frac{165}{195}$$

Sydney scored the most on net.