

# Ratios and Rates Review Sheet

## Vocabulary

Either from notes or from memory, explain what each of the following mean:

Ratio: \_\_\_\_\_

\_\_\_\_\_

Rate: \_\_\_\_\_

\_\_\_\_\_

Part to whole ratio: \_\_\_\_\_

\_\_\_\_\_

Part to part ratio: \_\_\_\_\_

\_\_\_\_\_

Unit rate (or unit price): \_\_\_\_\_

\_\_\_\_\_

## Questions

1. A family going on a road trip knows that their car uses 8 litres of gas for every 100 km they drive. If they drive at 80 km/h for 5 hours, how much fuel did they use?
  - a) Begin by figuring out how far they drove.

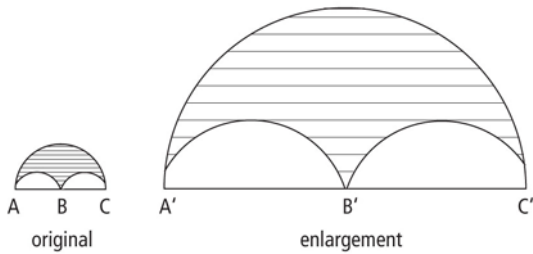
b) Now figure out how much gas they used.

2. Mr. McLellan has worked out the perfect ratio for making dal (lentils). He puts 100 grams of dal in a pot with 300 grams of water. He then puts it on his stove for 21 minutes.

a) If Mr. McLellan was having friends over for dinner and he needed to make twice as much dal, what would he need to do? Explain your reasoning in complete sentences.

b) If Mr. McLellan had only 85 grams of dal left, how would he cook it? Explain your reasoning in complete sentences.

3. In the following diagram, a student has made an enlargement of the original drawing. They have labelled the new points by putting an apostrophe after the letters.



a) What is the ratio of the length from A to B compared with the length from A' to B'?

b) What is the ratio of the **diameter** of the semi-circle in the smaller diagram to the enlargement?

c) What is the multiplier used to make the enlargement? (How many times bigger is it?)

4. In a cookie recipe, the ratios of the ingredients of sugar:flour:water:butter:chips is 2:4:2:1:1.

a) what is the ratio of sugar to butter?

b) what is the ratio of flour to water in lowest terms?

c) what fraction of the cookies are made of butter?

d) write two part to whole ratios in lowest terms using this recipe.

5. Bananas cost fifty cents per pound and weigh one-third of a pound each.

a) How much will 12 bananas cost? Make sure you show all your reasoning in the space below. If necessary, draw a picture.

b) What is the unit price per banana?

6. At any given time, the ratio between the height of any object and its shadow is the same for all objects. If a tree has a shadow that is 12 metres long and the height of the tree is 18 metres, then how long will the shadow of a totem pole be if it is twenty metres tall? Show how you can use ratios to solve this problem.



7. Isaiah rode his bicycle 3 kilometres in 10 minutes. How fast is this in kilometres per hour?

8. (Challenge) If a train travels at 15 metres per second, how fast is it going in kilometres per hour?

9. (Challenge) A photocopier has settings that can reduce an image by 50%, and can increase it by 200%, 300%, or 400%. Find as many ways as you can to enlarge an image that is 4 cm high to make it 18 cm high using this copier.