



Year 8 Mathematics Ratio and Rates Practice Test 3

Name _____

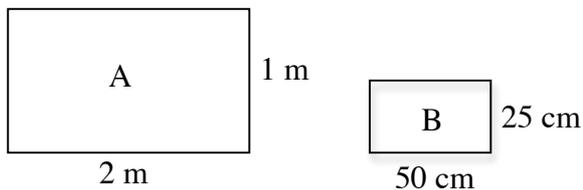
1 Betty says to Jim: 'My fish is six times as long as your fish' Betty is comparing the length of her fish to the length of her fish to the length of Jim's fish.

a) Write down the ratio of

- i) the length of Betty's fish to the length of Jim's fish
- ii) the length of Jim's fish to the length of Betty's fish

b) Does Betty's statement tell us the actual length of either fish?

2



a) What is the ratio of

- i) the length of rectangle B to the length of rectangle A?
- ii) the width of rectangle B to the width of rectangle A?
- iii) the area of rectangle B to the area of rectangle A?

b) Evaluate the fractions

- i) $\frac{\text{length of rectangle B}}{\text{length of rectangle A}}$
- ii) $3 : \frac{1}{2}$
- iii) $\frac{\text{area of rectangle B}}{\text{area of rectangle A}}$

3 Bronte buys a book for \$2 and later sells it for \$3. Find the ratio of her

- a) selling price to cost price
- b) selling price to profit
- c) cost price to profit

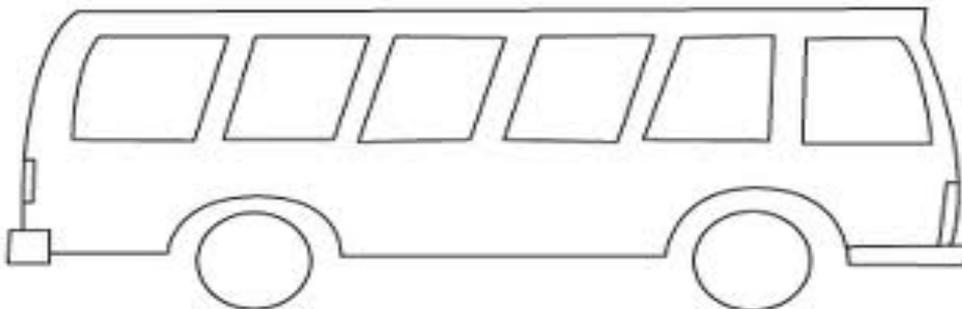
4 Are the ratios 3 : 1 and 12 : 10 equivalent?

5 Simplify these ratios

- a) 4 : 8
- b) 15 : 12
- c) 3.5 : 1.5
- d) $3 : \frac{1}{2}$
- e) $2\frac{1}{5} : 1$
- f) 1 m : 20 cm

6 A bricklayer mixes sand and cement in the ratio 5 : 2 by volume. If he uses 5 bags of cement, how much sand should he use?

- 7 Two business partners Jack and Jill decide to divide the profits from a business venture in the same ratio as their investments. If Jack invests \$9000 and Jill invests \$5000, how much should Jill receive if Jack receives \$3600?
- 8 A school consists of boys and girls in the ratio 4 : 3. If there are 560 students in the school, find how many boys and girls there are in the school.
- 9 A brother and sister Betty and Jim are to divide \$1800 between them in the ratio 5: 4. How much does each receive?
- 10 Express each of the following as a rate in its simplest form
- A man travels 210 km in 3 hours
 - 500 sheep are grazed on 200 hectares
 - \$25 for 5 kg
 - \$160 is paid for 20 hours worked
- 11 Convert each of the following rates to the rate indicated
- 600 L/h = L/min
 - 20 mL/s = L/h
- 12 A mine supplies ore at the rate of 1500 tonnes per day
- How long will it take to supply 60 000 tonnes?
 - How many tonnes can the mine supply in 4 weeks?
- 13 A shearer sheared 70 sheep in 2 hours. If he could continue at this rate find
- How long will it take to shear 200 sheep to the nearest hour?
 - How many sheep could be sheared in 8 hours?
- 14 Simplify these scales
- 1 mm : 1m
 - 1 cm : 2 m
 - 5 mm : 1 km
- 15 The scale on a drawing is 1 : 10. What is the real distance between two points that are 5 cm apart on the drawing
- 16 Two trees are 50 m apart. How far apart would they be on a drawing with a scale of 1:500?
- 17 From the picture, by measurement and calculation,
- Find
- the maximum length of the bus
 - the maximum height of the bus



Scale = 1 : 100