

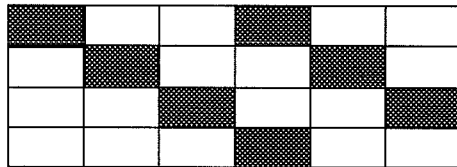
# RATIOS AND PERCENTAGES

## YEARS 7 AND 8

1 As a percentage,  $\frac{11}{20}$  is equal to:

- A 11%                      B 51%                      C 55%                      D 91%

2 The percentage of the chocolate bar which is shaded is:



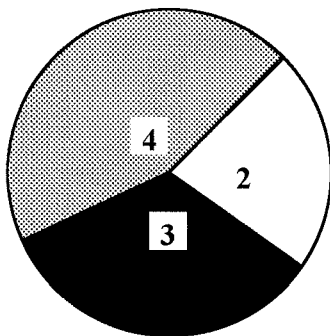
- A 7%                      B 29.4%                      C  $29\frac{4}{24}\%$                       D 70%

3 8% of \$595 is equal to:

- A \$47.60                      B \$74.38                      C \$476                      D \$587

THE NEXT 2 QUESTIONS REFER TO THE FOLLOWING INFORMATION

A family-sized pizza was divided in the ratio 4 : 3 : 2. Jim ate the largest piece, Sam the next largest piece and Ben the smallest piece.



4 What angle was used to measure out Ben's piece?

- A  $20^\circ$                       B  $40^\circ$                       C  $75^\circ$                       D  $80^\circ$

5 To the nearest unit, what percentage of the pizza did Jim eat?

- A 25%                      B 40%                      C 44%                      D 45%

6 Kate had to go on a long car trip to the country. She knew it would take 4 hours. After 1 hour and 20 minutes she looked at her watch and wondered how she was going to “survive” the rest of the trip. What percentage of the travelling time was still left?

- A 33.3%                      B 60%                      C 66.7%                      D 75%

7 When expressed as the simplest ratio, 16:20 is equal to:

- A 1:1.3                      B 4:5                      C 1.6:2                      D 8:10

8 If  $9 : x = 81 : 9$  then  $x$  is equal to:

- A 1                      B 3                      C 9                      D  $\frac{1}{9}$

9 If 40 minties were shared between Laura and Katherine in a ratio 4:1, then Katherine got:

- A 8 minties                      B 10 minties  
C 30 minties                      D 32 minties

10 The ratio of 63 mm to 72 cm is most simply expressed as:

- A 63:72                      B 7:8                      C 7:80                      D 70:8

11 The ratio of  $7\frac{1}{6} : 3\frac{1}{2}$  is more simply written as:

- A 7:3                      B 43:7                      C 43:21                      D 43:11

12 In a certain Year 8 class, 35% of the students had blue eyes,  $\frac{1}{10}$  had hazel eyes and the remainder had brown eyes.

In this class, the ratio *blue eyes: hazel eyes: brown eyes* was:

- A 350:1                      B 7:2:11                      C 35:1:64                      D none of these

13 Which one of these is not in the ratio 5:4:3?

- A  $\frac{1}{5} : \frac{1}{4} : \frac{1}{3}$                       B 0.1 : 0.08 : 0.06  
C  $1 : \frac{4}{5} : \frac{3}{5}$                       D 15 : 12 : 9

14 What is the value of  $x$  which makes this statement correct?  $\frac{x}{2} : 4 = 3 : 1$

- A 3                      B 6                      C 12                      D 24

- 15 0.5% of \$7400 is:
- A \$37                      B \$370                      C \$1480                      D 3700
- 16 Tony got 56 out of 70 for a maths test. What percentage was this?
- A 56%                      B 80%                      C 84%                      D 86%
- 17 A shop assistant in a Jeans shop was offered 15% discount on any item in the store. How much would she pay for a pair of jeans selling at \$65?
- A \$9.75                      B \$50                      C \$55.25                      D \$56.25
- 18 As a percentage, 0.048 is equal to:
- A 0.00048%                      B 0.48%                      C 4.8%                      D 48%
- 19 4% of the students at a secondary school learn the violin as their first instrument. If this school has 50 violinists, the total number of students at the school is:
- A 100                      B 200                      C 1000                      D 1250
- 20 Lucie and Mark gave their grandmother a box of chocolates for Mother's Day. The box contained 40 chocolates altogether, but unfortunately their grandmother could not manage the chocolates with hard centres, which were 45% of the chocolates in the box. She decided to let Lucie and Mark have these, but in the ratio 2:1 since Lucie was 12 and Mark was only 6 years old. How many chocolates did Mark have?
- A 6                      B 7                      C 8                      D 9
- 21 When some geologists analysed the old rocks (called "tailings") dug out of a gold mine which opened over 100 years ago, they found that these tailings still contained 1.2% gold. They estimated that the total weight of the tailings was about 50 tonnes. Now they have the technology, they can actually recover this small percentage of gold.
- How much gold might they be able to get from the tailings from this old gold mine? (1 tonne = 1000 kg)
- A 41.7kg                      B 60 kg                      C 600kg                      D 6 tonnes
- 22 In the equation,  $2 : x : 9 = 1 : 12 : y$ , the values of x and y must be:
- A 6, 18                      B 13, 8                      C 24, 18                      D 24,  $4\frac{1}{2}$

23 Jessica and John bought a ticket between them in a lottery. Jessica contributed \$4.50 and John \$3.50 towards the ticket. When they won \$24 000, they decided to share it in the same ratio as their contribution to the ticket. How much did Jessica get?

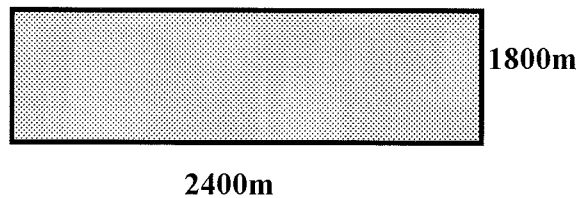
- A \$10 800      B \$13 500      C \$14 500      D \$21 600

24 Liam bought a great new jumper at an end of season sale. The label stated that it was 65% by weight wool and the rest was acrylic and nylon. The jumper weighed 1.2 kg and the weight of the nylon present was 60 gram.

The weights of the fibres : *wool* : *acrylic* : *nylon* was:

- A 13 : 10 : 1      B 13 : 6 : 1  
 B 65 : 33 : 2      D 61 : 26 : 1

25 A certain rural property was the shape of a rectangle, shown in the diagram.



To build a more financially secure future, the owners decided to divide the property into 3 areas, and grow 3 different crops. The total area for each crop was to be in the following ratio:

$$\text{wheat} : \text{sunflowers} : \text{oranges} = 3 : 2 : 1$$

Which one of the following arrangements could equal the total area they decided to fence off for wheat?

