

## ESW Support Materials: Essential Application of Number Skills

### Ratio and Proportion Teacher's Pack

This pack has been prepared to provide centres with additional opportunities for their learners to strengthen their knowledge of the application of ratios and proportions as used in maths. It also provides additional examples of multiple-choice questions for the learners to practice their calculations.

The pack shows two methods that the learner could employ to help them with their calculations. The first method talks the learner through the concept of simple proportion and aims to provide them with a tool that can be applied across a number of different types of calculations, including those involving compound measures.

The second method provides a rule that can be applied. In both cases, it is important that the learner understands the concept of ratio and proportion and can apply some number sense to consider what a sensible answer might be.

The pack also includes an example of how to 'cancel down' to make the numbers easier to work with. It may be that your learner requires additional practice with this strategy.

### Test Practice Answers and Rationale for Distractors

This section provides the answers to the test practice questions on pages 23-26 of the pack.

It also gives the rationale for the distractors. This will help you explore any misconceptions that the learner may be having and to consider how these can be addressed.

1.

A	4 : 3	key
B	3 : 4	ratio wrong way around
C	4 : 7	ratio of cheese sandwiches to total number of sandwiches
D	3 : 7	ratio of chicken sandwiches to total number of sandwiches

2.

A	108 calories	key
B	117 calories	$360 + 30 = 390$ , $390 \times 30 \div 100$
C	120 calories	approximation of $1/3$
D	330 calories	$360 - 30$

3.

A	7 buckets	$28 \div 4$
B	8 buckets	$28 \div 7 \times 2$
C	14 buckets	key
D	24 buckets	$28 - 4$

4.

A	150 ml	$1200 \div 8$
B	240 ml	$1200 \div 5$
C	450 ml	$1200 \div 8 \times 3$
D	750 ml	key

5.

A	2 : 5	ratio of laptops to total number of devices
B	2 : 3	ratio wrong way around
C	3 : 5	ratio of phones to total number of devices
D	3 : 2	key

6.

A	240 g	key
B	360 g	$600 \div 50 \times 30$
C	400 g	$600 \div 30 \times 20$
D	550 g	$600 - 30 - 20$

7.

A	5 : 7	ratio wrong way around
B	7 : 5	key
C	5 : 12	ratio of dislikes to total number of likes and dislikes
D	7 : 12	ratio of likes to total number of likes and dislikes

8.

A	$7.5 \text{ m}^2$	$36 \div 8 + 3$
B	$13.5 \text{ m}^2$	key
C	$41 \text{ m}^2$	$36 + 8 - 3$
D	$96 \text{ m}^2$	$36 \div 3 \times 8$

9.

A	420 g	$450 + 60 - 90$
B	300 g	$450 \div 90 \times 60$
C	270 g	$450 \div 150 \times 90$
D	180 g	key

10.

A	7 : 4	ratio wrong way around
B	4 : 7	key
C	4 : 11	ratio of adults to total number of members
D	7 : 11	ratio of juniors to total number of members

11.

A	£6 000	$54000 \div 9$
B	£12 000	key
C	£18 000	$54000 \div 6 \times 2$
D	£27 000	$54000 \div 2$

12.

A	7.5 ml	$30 \div 12 + 5$
B	37 ml	$30 + 12 - 5$
C	42.5 ml	$30 + (5 \div 12 \times 30)$
D	72 ml	key