Ratio and proportion

6.1

Total Marks (out of 20)	

Name	
Date	

Section 1:

solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts

1

A packet of sweets contains **4 lemon drops** for every **3 toffees**.

There are **12 lemon drops** in a packet.

> How many **toffees** in a packet?

_____
1 mark

2 Peanuts cost **40p** for every **100 grams**.

> How many grams of peanuts can be bought for **£1**?

_____
1 mark

3 Purple paint is made by mixing **3 parts of red** paint with **2 parts of blue** paint.

How much **blue paint** is needed when you use **600ml of red paint**?

ml

Eve is making **2 litres of purple paint**.

How much **red paint** does she need?

ml

2 marks

4 This map has a scale of **2cm** to **7km**.

The road on the map from Alcester to Stratford is **3cm** long.

What is the length of the road in **km**?

km

1 mark

Section 2:

solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison

5   A bottle of lemonade normally holds 330ml of drink.

A new bottle holds 20% more lemonade.

330ml   20% extra

How much lemonade is in the new bigger bottle?

Show your method

2 marks

6   Complete the calculations.

10% of 480 =

30% of 25 =

5% of £5.60 =

25% of £5 =

7 Zac has done a survey of people's favourite flavours of crisps.

He has worked out the percentage of each response.

He is going to create a pie chart with his results.

Complete the table below to show his results.

Flavour	Percentage of votes	Angle on pie chart
Cheese and Onion	50%	180°
Ready Salted		90°
Prawn Cocktail	10%	
Other	15%	

3 marks

8 There are **120 children** at Tysoe School.

They all vote for their next school trip.

20% vote for a visit to the zoo.

25% vote for a visit to the museum.

The **rest** vote for a visit to the **seaside**.

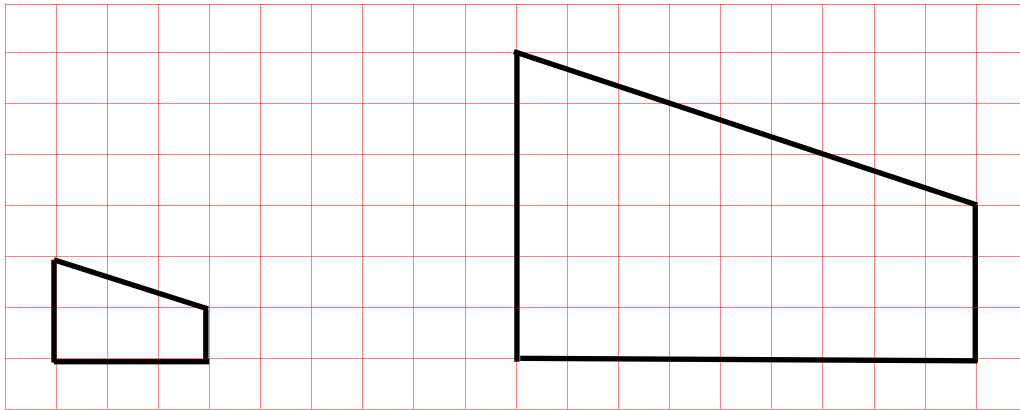How many children vote for a visit to the seaside.

Show your method

2 marks

Section 3:

solve problems involving similar shapes where the scale factor is known or can be found

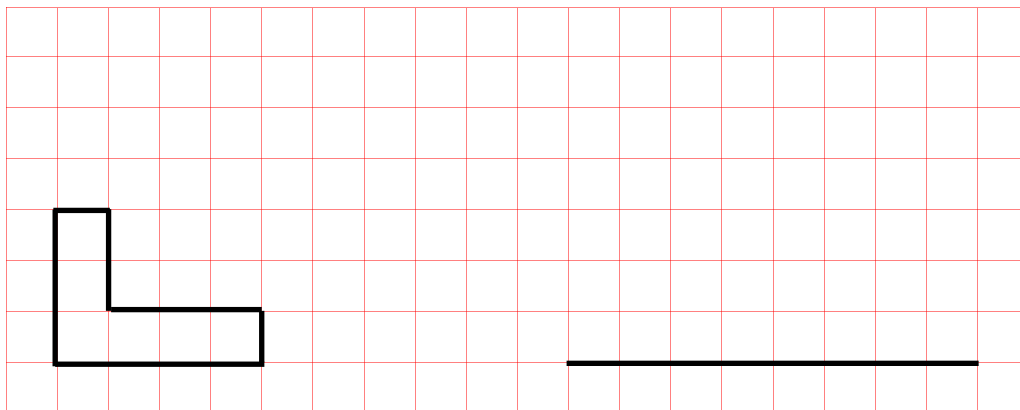**9** Write the scale factor used to enlarge the shape on the left.

Scale factor =

1 mark

10 Enlarge the shape on the left by a scale factor of 2.

The first line has been done for you.

Use a ruler.

2 marks

Section 4:

solve problems involving unequal sharing and grouping using knowledge of fractions and multiples

11 There are 35 children in Class 6B

$\dfrac{3}{5}$ of them are boys.

How many **girls** are there in Class 6B?

Show your method

2 marks

12 A gardener planted 3 different types of bulbs in a flower bed.

$\dfrac{6}{10}$ of the bulbs were daffodils.

The rest of the flowers were either tulips or crocuses.

The gardener planted three times as many tulips as crocuses.

What **fraction** of the bulbs planted were tulips?

1 mark