

## Year 9 Core – Ratio

<p>2</p> <p>Write down the ratio of 350 cm to 25 cm. Give your answer in its simplest form.</p> <p style="text-align: center;">350 : 25 14 : 1</p> <p style="text-align: center;">divide both parts by 25</p>	<p>2</p> <p>Write down the ratio of 220 kg to 5 kg. Give your answer in its simplest form.</p> <p style="text-align: center;">220 : 5 44 : 1</p>
<p>3</p> <p>(a) Write the ratio 32 : 24 in its simplest form</p> <p style="text-align: center;">32 : 24 16 : 12 8 : 6 4 : 3</p> <p>(b) <math>\frac{1}{9}</math> of people in a class are left handed. Write the ratio of left handed people to right handed people</p> <p style="text-align: center;">1 : 8</p> <p style="text-align: center;">as number of parts must add up to the denominator.</p>	<p>4</p> <p>Write the ratio 12 : 30 in the form 1 : n</p> <p style="text-align: center;"><math>\div 12 \left\{ \begin{array}{l} 12 : 30 \\ 1 : \frac{30}{12} \\ 1 : \frac{15}{6} \\ 1 : \frac{5}{2} \\ 1 : 2.5 \end{array} \right.</math></p>
<p>5</p> <p>There are some cubes in a bag. <math>\frac{1}{6}</math> of the cubes are red. The rest of the cubes are blue. Write the ratio of the number of red cubes to the number of blue cubes. Give your answer in the form 1 : n</p> <p style="text-align: center;"><math>\frac{1}{6} = \text{red} \Rightarrow \frac{5}{6} = \text{blue}</math> so ratio R : B 1 : 5</p>	
<p>6</p> <p>There are only blue counters, red counters and yellow counters in a bag. There are twice as many blue counters as yellow counters. There are three times as many red counters as yellow counters. Write down the ratio of blue counters to red counters to yellow counters.</p> <p><u>Hard</u> which colour has the least? yellow so let yellow have one part</p> <p style="text-align: center;">B : R : Y 2 : 3 : 1</p> <p style="text-align: right;">Twice as many blue and three times as many red</p>	



## Dividing and Sharing Ratio

1. Divide £24 into the ratio 1 : 3. (Total 4 parts)

$$£24 \div 4 = \underline{6}$$

$$\underline{6} \times 1 = \underline{6}$$

$$\underline{6} \times 3 = \underline{18}$$

$$\underline{6} : \underline{18}$$

2. Divide 800ml into the ratio 3 : 7. (Total 10 parts)

$$800\text{ml} \div 10 = \underline{80}$$

$$3 \times 80 = 240$$

$$7 \times 80 = 560$$

$$\underline{240} : \underline{560}$$

3. Share 56 sweets in the ratio 2 : 5. (Total 7 parts)

$$2 + 5 = 7$$

$$56 \div 7 = 8$$

$$2 \times 8 = 16$$

$$5 \times 8 = 40$$

$$\underline{16} : \underline{40}$$

4. Divide £72 into the ratio 4 : 5.

$$4 + 5 = 9$$

$$72 \div 9 = 8$$

$$4 \times 8 = 32$$

$$5 \times 8 = 40$$

$$\underline{32} : \underline{40}$$

5. Divide 84 pens into the ratio 5 : 9.

$$5 + 9 = 14$$

$$84 \div 14 = 6$$

$$5 \times 6 = 30$$

$$9 \times 6 = 54$$

$$\underline{30} : \underline{54}$$

6. Share £120 in the ratio 5 : 2 : 5. (Total 12 parts)

$$£120 \div 12 = \underline{10}$$

$$5 \times 10 = 50$$

$$2 \times 10 = 20$$

$$5 \times 10 = 50$$

$$\underline{50} : \underline{20} : \underline{50}$$



7. Divide 24L into the ratio 3 : 3 : 2.  $3 + 3 + 2 = 8$

$$24 \div 8 = 3$$

$$3 \times 3 = 9$$

$$3 \times 3 = 9$$

$$3 \times 2 = 6$$

$$\underline{9} : \underline{9} : \underline{6}$$

8. Share 96 sheep in the ratio 7 : 1 : 4.  $7 + 1 + 4 = 12$

$$96 \div 12 = 8$$

$$7 \times 8 = 56$$

$$1 \times 8 = 8$$

$$4 \times 8 = 32$$

$$\underline{56} : \underline{8} : \underline{32}$$

9. A school collected £140 for charity. It was decided to divide the money between Dr Barnados and the RSPCA in the ratio 4 : 3. How much did each charity receive?  $4 + 3 = 7$

$$140 \div 7 = 20$$

$$4 \times 20 = 80$$

$$3 \times 20 = 60$$

Dr Barnados: 80      RSPCA: 60

10. Mr Allen, Mr Broome and Mr Collins own 2, 5 and 7 parts of a business respectively. The business makes £420 profit in a week. How much does each man get?  $2 + 5 + 7 = 14$

$$420 \div 14 = \pounds 30$$

$$2 \times 30 = 60$$

$$5 \times 30 = 150$$

$$7 \times 30 = 210$$

Mr Allen: £60      Mr Broome: £150      Mr Collins: £210