# Ratio and Proportion

Year 10–11 Maths · Years 10–11 · NCEA Level 1 · About 25 minutes · 8 questions

Name _____ Date _____ Score / 8

**WHAT YOU WILL PRACTISE**

- Simplify a ratio and share an amount in a given ratio
- Find a total or a share when given one part or a difference
- Solve direct and inverse proportion problems

**WORKED EXAMPLE**

Share $45 in the ratio 4 : 5.

1. Add the parts: 4 + 5 = 9 parts.
2. Find one part: $45 ÷ 9 = $5.
3. Multiply each side of the ratio: 4 × $5 = $20 and 5 × $5 = $25.
4. Check: $20 + $25 = $45.

**Answer:** $20 and $25

## Questions

Show your working in the space under each question.

**1.** Simplify the ratio 18 : 24

**2.** Share $60 in the ratio 2 : 3

**3.** Share 140 sweets in the ratio 3 : 4

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**4.** The ratio of red counters to blue counters in a bag is 5 : 2. There are 35 red counters. How many blue counters are there?

**5.** 5 pens cost $3.50. Work out the cost of 8 pens.

**6.** A recipe for 4 people uses 300 g of flour. How much flour is needed for 10 people?

**7.** Amy and Ben share some money in the ratio 3 : 5. Ben gets $18 more than Amy. How much money do they share in total?

**8.** 6 workers take 10 days to build a wall. How long would 4 workers take, working at the same rate?

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# Answers: Ratio and Proportion

Mark your own work, then go back to any question you got wrong before reading the tutor tip.

| Q | QUESTION | ANSWER |
|---|---|---|
| 1 | Simplify the ratio 18 : 24 | **3 : 4** |
| 2 | Share $60 in the ratio 2 : 3 | **$24 and $36** |
| 3 | Share 140 sweets in the ratio 3 : 4 | **60 and 80** |
| 4 | The ratio of red counters to blue counters in a bag is 5 : 2. There are 35 red counters. How many blue counters are there? | **14** |
| 5 | 5 pens cost $3.50. Work out the cost of 8 pens. | **$5.60** |
| 6 | A recipe for 4 people uses 300 g of flour. How much flour is needed for 10 people? | **750 g** |
| 7 | Amy and Ben share some money in the ratio 3 : 5. Ben gets $18 more than Amy. How much money do they share in total? | **$72** |
| 8 | 6 workers take 10 days to build a wall. How long would 4 workers take, working at the same rate? | **15 days** |

**TUTOR TIP**

Find the value of one part first. Almost every ratio question becomes easy once you know what one part is worth.

**Stuck on a question? Work through it live with a tutor.**

YFCampus offers one-to-one online Maths tutoring matched to your school curriculum. Book a free trial class at **www.yfcampus.com/nz**

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