Ratio and rate

Free Extra Maths Class · Grade 7

Name: _____

Remember: Simplify: divide both sides by the same number. To share: add the parts, find one part, then multiply.
Why? 2 : 3 means 5 equal parts. A rate is the amount for **one** (hour, kg), so prices can be compared fairly.

1. Write 28 : 35 in simplest form.

2. Write the ratio **yellow beads : blue beads** in simplest form.



3. A car drives 280 km in 4 hours. What is its average speed in km/h?

4. A 5 kg bag of potatoes costs R65. What is the price per kilogram?

5. Share R96 between Anri and Bongi in the ratio 5 : 3.

6. Fill in: 4 : 7 = ____ : 35

7. Write 75 cm : 2 m in simplest form.

8. 6 pens cost R27. How much do 10 of these pens cost?

9. Porridge: a 750 g pack costs R48 and a 500 g pack costs R34. Which pack is the best buy? Show your working.

10. Gran uses 3 cups of flour for 12 muffins. How many cups does she need for 20 muffins?

11. Lize cycles at 18 km/h. How far does she ride in 2 hours 30 minutes?

12. A class has 45 learners. Boys : girls = 4 : 5. How many girls are in the class?

13. Three friends share R1 200 in the ratio 2 : 3 : 5. How much does each get?

14. Thandi and Pieter share money in the ratio 7 : 4. Thandi gets R45 more than Pieter. How much does each get?

15. A bus leaves Kleinrivier at 07:45 for Seebaai, 165 km away. It travels at an average speed of 110 km/h. At what time does it arrive?

I got _____ **out of 15** ☆ ☆ ☆

Memorandum
Ratio and rate

Other correct methods are also right.

1. **4 : 5**
   HCF of 28 and 35 is 7: 28 ÷ 7 = 4 and 35 ÷ 7 = 5

2. **3 : 5**
   6 yellow and 10 blue: 6 : 10 = 3 : 5 (divide both by 2)

3. **70 km/h**
   280 km ÷ 4 h = 70 km/h

4. **R13**
   R65 ÷ 5 = R13

5. **Anri R60, Bongi R36**
   5 + 3 = 8 parts; R96 ÷ 8 = R12; 5 × R12 = R60; 3 × R12 = R36

6. **20**
   7 × 5 = 35, so 4 × 5 = 20

7. **3 : 8**
   Make the units the same: 2 m = 200 cm. 75 : 200 = 3 : 8 (divide by 25)

8. **R45**
   One pen: R27 ÷ 6 = R4,50; 10 × R4,50 = R45

9. **The 750 g pack**
   Price per 250 g: R48 ÷ 3 = R16; R34 ÷ 2 = R17. R16 is cheaper.

10. **5 cups**
    12 ÷ 3 = 4 muffins per cup; 20 ÷ 4 = 5 cups

11. **45 km**
    2 hours 30 min = 2,5 hours; 18 × 2,5 = 45 km

12. **25 girls**
    4 + 5 = 9 parts; 45 ÷ 9 = 5; 5 × 5 = 25

13. **R240, R360, R600**
    2 + 3 + 5 = 10 parts; R1 200 ÷ 10 = R120; 2 × R120 = R240; 3 × R120 = R360; 5 × R120 = R600

14. **Thandi R105, Pieter R60**
    Difference: 7 − 4 = 3 parts = R45; one part = R15; 7 × R15 = R105; 4 × R15 = R60

15. **09:15**
    Time = 165 ÷ 110 = $1\frac{1}{2}$ hours = 90 min; 07:45 + 90 min = 09:15