Ratios and proportion - topic test

Name: _____ Date: _____

15 questions | 38 marks | 45 minutes

A by-hand review from ratio notation and sharing to practical models and reasoning.

No calculator needed.

1. Use the picture to write blue:yellow. [1 mark]



3 blue counters 2 yellow counters

2. Simplify $18:24$. [1 mark]

3. Simplify $50\text{ cm}:2\text{ m}$. [2 marks]

4. Complete $4:7=20:x$. [2 marks]

5. There are 9 red beads and 6 white beads. What fraction of all beads is red? [2 marks]

6. Share 72 dollars in the ratio $5:4$. [3 marks]

7. Rice for 4 people is 240 g. Find the rice for 10 people. [2 marks]

8. Concentrate:water is $1:3$. Make 2 L of drink. Find both quantities. [3 marks]

9. Complete the price table for identical notebooks. [3 marks]

Identical notebooks

Notebooks	4	6	9
Cost (dollars)	?	18	?

10. A student changes $2:5$ to $5:8$ by adding 3 to both entries. Explain why this does not give an equivalent ratio. [3 marks]

11. There are 42 bibs, blue:gold $2:5$. Gold bibs go into bags of 5. How many full bags are needed? [3 marks]

12. A map uses 2 cm for 7 km. Find the real distance for 6 cm. [2 marks]

13. Hire costs 6 dollars to start plus 4 dollars per hour. Sam says 4 hours costs twice as much as 2 hours. Check the claim. [3 marks]

14. A recipe for 6 students uses 450 g pasta and 300 g vegetables. The same recipe is needed for 10 students. [4 marks]

(a) Find the pasta needed. [1 mark]

(b) Find the vegetables needed. [1 mark]

(c) Find the total mass of pasta and vegetables for 10 students. [2 marks]

15. Scores are in the ratio $3:7$. The higher score is 20 points more. Find both scores. [4 marks]