3.3 Sharing in a Given Ratio: 1-hour Pack

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Orange juice and lemonade are mixed in the ratio 5 : 6 to make punch. How many ml of lemonade are needed to mix with 3000 ml of orange juice?

(2)

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2 Red and white are mixed in the ratio 1 : 6 to make paint. Sam has 3 litres of red and 36 litres of white. What is the greatest amount of paint he can make?

(4)

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3 Sand and cement are mixed in the ratio 5 : 3 to make mortar. Work out how much sand is in 32 kg of mortar.

(3)

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4 Share 14 biscuits between Erin and Yusuf in the ratio 3:4. How many biscuits does each person receive?

(2)

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5 Red and white are mixed in the ratio 3 : 2 to make paint. Sam has 33 litres of red and 28 litres of white. What is the greatest amount of paint he can make?

(4)

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6 Maya, Jack and Priya share £170 in the ratio 3 : 2 : 5. How much does each person get?

(3)

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7 Sand and cement are mixed in the ratio 3 : 4 to make mortar. Work out how much sand is in 14 kg of mortar.

(3)

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8 Red and white are mixed in the ratio 3 : 2 to make paint. Work out how much red is in 15 litres of paint.

(3)

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9 Red and white are mixed in the ratio 1 : 7 to make paint. Sam has 4 litres of red and 49 litres of white. What is the greatest amount of paint he can make?

(4)

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10 Orange juice and lemonade are mixed in the ratio 1 : 5 to make punch. Work out how much orange juice is in 3600 ml of punch.

(3)

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11 Orange juice and lemonade are mixed in the ratio 5 : 2 to make punch. Sam has 2000 ml of orange juice and 806 ml of lemonade. What is the greatest amount of punch he can make?

(4)

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12 The ratio of red to blue counters in a bag is 5 : 7. There are 56 blue. How many red are there?

(3)

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13 Share £18 between Callum and Amelia in the ratio 2:1. State each share in pounds.

(2)

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14 The ratio of red to blue counters in a bag is 7 : 3. There are 70 red and blue altogether. How many more red than blue are there?

(3)

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15 Share 30 marbles between A, B and C in the ratio 1:2:3. Find how many marbles C receives.

(3)

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Mark scheme · 3.3 Sharing in a Given Ratio: 1-hour Pack

Question 1

3000 ÷ 5 = 600	M1
3600 ml cao	A1

Answer: **3600 ml**

Question 2

red supports 3 ÷ 1 = 3 units	M1
white supports 36 ÷ 6 units	M1
uses the smaller: 3 units x 7	M1
21 litres cao	A1

Answer: **21 litres**

Question 3

5 + 3 = 8 parts	M1
32 ÷ 8 x 5	M1
20 kg cao	A1

Answer: **20 kg**

Question 4

one unit = 14 / (3+4) = 14/7 = 2	M1
3 units = 6 and 4 units = 8 cao	A1

Answer: **Erin 6, Yusuf 8**

Question 5

red supports 33 ÷ 3 = 11 units	M1
white supports 28 ÷ 2 = 14 units	M1
uses the smaller: 11 units x 5	M1
55 litres cao	A1

Answer: **55 litres**

Question 6

3 + 2 + 5 = 10 parts	M1
170 ÷ 10 = 17	M1
Maya £51, Jack £34, Priya £85 cao	A1

Answer: **Maya £51, Jack £34, Priya £85**

Question 7

3 + 4 = 7 parts	M1
14 ÷ 7 x 3	M1
6 kg cao	A1

Answer: **6 kg**

Question 8

3 + 2 = 5 parts	M1
15 ÷ 5 x 3	M1
9 litres cao	A1

Answer: **9 litres**

Question 9

red supports 4 ÷ 1 = 4 units	M1
white supports 49 ÷ 7 units	M1
uses the smaller: 4 units x 8	M1
32 litres cao	A1

Answer: **32 litres**

Question 10

1 + 5 = 6 parts	M1
3600 ÷ 6 x 1	M1
600 ml cao	A1

Answer: **600 ml**

Question 11

orange juice supports 2000 ÷ 5 = 400 units	M1
lemonade supports 806 ÷ 2 = 403 units	M1
uses the smaller: 400 units x 7	M1
2800 ml cao	A1

Answer: **2800 ml**

Question 12

56 ÷ 7 = 8	M1
8 x 5	M1
40 cao	A1

Answer: **40**

Question 13

one unit = 18 / (2+1) = 6	M1
2 units = 12 and 1 unit = 6 cao	A1

Answer: **£12, £6**

Question 14

70 ÷ 10 = 7	M1
4 x 7	M1
28 cao	A1

Answer: **28**

Question 15

find total units 1+2+3 = 6 and one unit = 30/6 = 5	M1
method to get C's share: 3 units = 3 x 5	M1
C receives 15 marbles cao	A1

Answer: **15**

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