3.3 Sharing in a Given Ratio: Test Pack

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Share £10 between Maya and Noah in the ratio 1:1. Write down how much each person receives.

(2)

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2 Write the ratio 120 g : 80 g in its simplest form.

(1)

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3 A total of 55 pens are shared between two students in the ratio 4:7. How many pens does each student get?

(2)

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4 Share 48 centimetres in the ratio 3:2:1. What is the smallest share?

(2)

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5 Stretch. A and B share some money in the ratio 2:3. A gives £6 to B. After this transfer the ratio of A:B becomes 1:2. Find the initial total amount of money shared.

(4)

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6 The ratio of red to blue counters in a bag is 5 : 6. There are 36 blue. How many red are there?

(3)

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7 Red and white are mixed in the ratio 1 : 5 to make paint. Work out how much red is in 42 litres of paint.

(3)

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8 The ratio of red to blue counters in a bag is 5 : 8. There are 80 blue. How many red are there?

(3)

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9 Orange juice and lemonade are mixed in the ratio 4 : 3 to make punch. How many ml of lemonade are needed to mix with 600 ml of orange juice?

(2)

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10 Maya, Hamza and Noah share £432 in the ratio 6 : 5 : 1. How much does each person get?

(3)

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11 Jack and Noah share £78 in the ratio 1 : 2. How much does each person get?

(3)

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12 The ratio of boys to girls in a club is 3 : 5. There are 15 girls. How many boys are there?

(3)

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13 Aisha, Tom and Ben share 444 sweets in the ratio 6 : 1 : 5. How much does each person get?

(3)

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14 Chloe and Zain share £280 in the ratio 7 : 3. How much does each person get?

(3)

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15 Isla and Leo share 124 sweets in the ratio 1 : 3. How much does each person get?

(3)

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16 The ratio of adults to children at a concert is 5 : 7. There are 16 more children than adults. How many adults and children are there altogether?

(4)

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17 Simplify the ratio 8:12 to its lowest terms.

(1)

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Mark scheme · 3.3 Sharing in a Given Ratio: Test Pack

Question 1

divide 10 into 2 equal parts, 10/2 = 5	M1
£5 and £5 cao	A1

Answer: **£5, £5**

Question 2

3:2 cao (divide both by 40)	B1

Answer: **3:2**

Question 3

one unit = 55 / (4+7) = 55/11 = 5	M1
4 units = 20 and 7 units = 35 cao	A1

Answer: **20, 35**

Question 4

total units 3+2+1 = 6 so one unit = 48/6 = 8	M1
smallest share = 1 x 8 = 8 cm cao	A1

Answer: **8 cm**

Question 5

let initial shares be 2k and 3k; set up equation for after transfer (2k - 6)/(3k + 6) = 1/2	M1
clear fraction and form linear equation: 2(2k - 6) = 3k + 6	M1
solve for k: 4k - 12 = 3k + 6 so k = 18	M1
initial total = 5k = 5 x 18 = £90 cao	A1

Answer: **£90**

Question 6

36 ÷ 6	M1
6 x 5	M1
30 cao	A1

Answer: **30**

Question 7

1 + 5 = 6 parts	M1
42 ÷ 6 x 1	M1
7 litres cao	A1

Answer: **7 litres**

Question 8

80 ÷ 8 = 10	M1
10 x 5	M1
50 cao	A1

Answer: **50**

Question 9

600 ÷ 4 = 150	M1
450 ml cao	A1

Answer: **450 ml**

Question 10

6 + 5 + 1 = 12 parts	M1
432 ÷ 12 = 36	M1
Maya £216, Hamza £180, Noah £36 cao	A1

Answer: **Maya £216, Hamza £180, Noah £36**

Question 11

1 + 2 = 3 parts	M1
78 ÷ 3 = 26	M1
Jack £26, Noah £52 cao	A1

Answer: **Jack £26, Noah £52**

Question 12

15 ÷ 5 = 3	M1
3 x 3	M1
9 cao	A1

Answer: **9**

Question 13

6 + 1 + 5 = 12 parts	M1
444 ÷ 12 = 37	M1
Aisha 222, Tom 37, Ben 185 cao	A1

Answer: **Aisha 222, Tom 37, Ben 185**

Question 14

7 + 3 = 10 parts	M1
280 ÷ 10 = 28	M1
Chloe £196, Zain £84 cao	A1

Answer: **Chloe £196, Zain £84**

Question 15

1 + 3 = 4 parts	M1
124 ÷ 4 = 31	M1
Isla 31, Leo 93 cao	A1

Answer: **Isla 31, Leo 93**

Question 16

difference in parts 2	M1
16 ÷ 2 = 8	M1
12 x 8	M1
96 cao	A1

Answer: **96**

Question 17

2:3 cao (common factor 4 used)	B1

Answer: **2:3**

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