3.3 Sharing in a Given Ratio: 30-minute Pack

Calculators not allowed · about 30 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Given that a:b = 5:2 and a = 35, find b.

(2)

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2 Share £84 between three siblings in the ratio 3:4:5. Find the largest share.

(2)

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3 Stretch. A, B and C share £110 in the ratio 2:3:5. C then gives £10 to A. Find the new ratio A:B:C in simplest form.

(4)

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4 Share 15 apples between Priya and Kwame in the ratio 2:1. How many apples does each person get?

(2)

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5 Isla, Hamza and Noah share 192 sweets in the ratio 2 : 1 : 5. How much does each person get?

(3)

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6 Sand and cement are mixed in the ratio 4 : 7 to make mortar. How many kg of cement are needed to mix with 36 kg of sand?

(2)

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7 The ratio of boys to girls in a club is 3 : 7. There are 36 more girls than boys. How many boys and girls are there altogether?

(4)

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8 The ratio of boys to girls in a club is 1 : 7. There are 5 boys. How many girls are there?

(3)

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9 Orange juice and lemonade are mixed in the ratio 3 : 2 to make punch. Sam has 600 ml of orange juice and 406 ml of lemonade. What is the greatest amount of punch he can make?

(4)

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Mark scheme · 3.3 Sharing in a Given Ratio: 30-minute Pack

Question 1

unit value: a = 5 units, so one unit = 35/5 = 7	M1
b = 2 x 7 = 14 cao	A1

Answer: **14**

Question 2

total units 3+4+5 = 12 so one unit = 84/12 = 7	M1
largest share = 5 x 7 = £35 cao	A1

Answer: **£35**

Question 3

find one unit: total units = 2+3+5 = 10 so one unit = 110/10 = 11	M1
initial shares: A = 2x11 = 22, B = 3x11 = 33, C = 5x11 = 55	M1
after transfer A = 22+10 = 32 and C = 55-10 = 45	M1
new ratio A:B:C = 32:33:45 cao (already in simplest integer terms)	A1

Answer: **32:33:45**

Question 4

find one unit: 15 divided by (2+1) = 15/3 = 5	M1
Priya 10, Kwame 5 cao	A1

Answer: **Priya 10, Kwame 5**

Question 5

2 + 1 + 5 = 8 parts	M1
192 ÷ 8 = 24	M1
Isla 48, Hamza 24, Noah 120 cao	A1

Answer: **Isla 48, Hamza 24, Noah 120**

Question 6

36 ÷ 4 = 9	M1
63 kg cao	A1

Answer: **63 kg**

Question 7

difference in parts 4	M1
36 ÷ 4 = 9	M1
10 x 9	M1
90 cao	A1

Answer: **90**

Question 8

5 ÷ 1 = 5	M1
5 x 7	M1
35 cao	A1

Answer: **35**

Question 9

orange juice supports 600 ÷ 3 = 200 units	M1
lemonade supports 406 ÷ 2 = 203 units	M1
uses the smaller: 200 units x 5	M1
1000 ml cao	A1

Answer: **1000 ml**

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