Quick Test - Harder ratio problems

1. In a clothing shop the ratio of hats to ties is 4:3. The ratio of gloves to hats is 9:1. Find the ratio of ties to gloves. Give your answer in its simplest form.

$$H : T \qquad G : H$$
$$4 : 3 \qquad 9 : 1$$

Make hats the same

$$36 : 4 \quad ^{\times 4}$$

$$H : T : G$$
$$4 : 3 : 36$$

$$T : G$$
$$3 : 36$$
$$\underline{\underline{1 : 12}}$$

2. Alan, Ben and Dora share some marbles.
   The amount of marbles Alan gets, to the amount of marbles Ben gets, is in the ratio 7:3.
   The amount Alan gets, to the amount Dora gets, is in the ratio 3:5.
   Given Dora gets 28 more marbles than Alan.
   Work out how many marbles Ben gets.

$$A : B \qquad A : D$$
$$7 : 3 \qquad 3 : 5$$

$$^{+3}$$
$$21 : 9 \qquad 21 : 35 \quad ^{\times 7}$$

Alan needs same

$$A : B : D$$
$$\underline{21 : 9 : 35}$$
$$+14$$

$$A : D : D$$
$$\underline{42 : 18 : 70}$$
$$+28$$

Ben gets 18 marbles

3. There are red marbles, blue marbles and green marbles in a bag.
The ratio of red marbles to marbles that are not red is 3:7
The ratio of green marbles to marbles that are not green is 7:18
Work out the ratio of red marbles to blue marbles to green marbles.
Give your answer in its simplest form.

$$R : NR \qquad\qquad G : NG$$

(10 parts) 3 : 7 $\qquad$ 7 : 18 (25 parts)

×5 $\qquad\qquad\qquad$ ×2

(50 parts) 15 : 35 $\qquad$ 14 : 36 (50 parts)
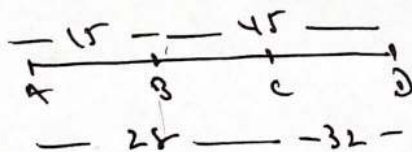
$$R : B : G$$
$$15 : 21 : 14$$

Blue = 50 − 15 − 14
$$= 21$$

4. The points A, B, C and D lie in order on a straight line.
AB:BD=1:3 and AC:CD=7:8.
Find AB:BC:CD
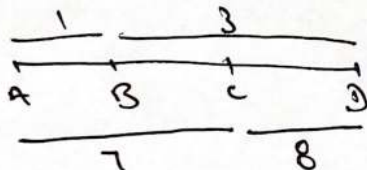
4 parts

15 parts

Make same (60)

×15

×4

$$AB : BC : CD$$
$$15 : 13 : 32 \quad (60)$$

$$AB : BC : CD$$
$$15 : 13 : 32$$