10 Ratio 'Cross Over' Questions – www.m4ths.com

(1) Francesca made some cakes.
She made vanilla cakes and chocolate cakes in the ratio 2:9.
What fraction of the cakes were chocolate?

(2) William sat a maths test.
The ratio of right answers to wrong answers on his paper was 7:1.
William needs to score 88% or more to pass the test.
Did William pass the test? You must show your workings.

(3) Write the ratio 1.6 : 0.6 in the form $p:q$ where p and q are integers. Give your answer in its simplest form.

(4) Write the ratio $\frac{1}{3}:\frac{3}{4}$ in the form $p:q$ where p and q are integers.

(5) The will of an old man was initially shared in the ratio 3:2 between Fred and Ken.
After a discussion it was decided Fred should have had 10% more of the original sum in his share of the money.
After the adjustment what proportion of the original amount of money does Ken now have?

(6) Noelle has been given the task of dividing a field up.
30% of the field is needed for grazing and 70% is needed for crops.
Noelle thinks it would be better to split the field in the ratio 1:4 with the larger section being dedicated to crops.
If she decided to make the change how much more of the field will be used for crops compared to the original plan?

(7) Fruit punch is made with Orange Juice, Grapefruit Juice and Sparkling Water in the ratio 2:3:5
Given that Jenny has 250ml of Orange Juice, half a litre of Grapefruit Juice and 65cl of Sparkling Water, find out how much Orange Juice she will use if she makes the **maximum** amount of Fruit Punch she possibly can.

(8) There are 10 counters in a bag.
The counters are either black or they are white.
The ratio of black counters to white counters is 4:1.
Find the minimum number of black counters would he need to remove from the bag to make the probability of picking a black 0.6 or less?

(9) Bob has a motor engine.
He currently runs the engine using petrol and oil in the ratio of 5:3.
To ensure the engine runs at its most efficient the amount of petrol level must be 80% and oil 20%
Does Bob need to alter the proportion of petrol used? If so, by how much?

(10) (a) The line $y=\frac{2}{3}x$ passes through the point with coordinates (a,b), $a,b\neq 0$. Write down the ratio $a:b$.

(b) The line $y=-0.2x$ passes through the point with coordinates (p,q), $p,q\neq 0$. Write down the ratio $p:q$.