**Ratio problem solving for the new GCSE**

1. I have 3 types of shapes: triangle, square or circle in the ratio 3:6:1. The triangles are either red or blue. The ratio of red triangles to blue triangles is 4:5. Given that I have 12 red triangles, how many circles are there?
2. In my house, the ratio of dogs to fish is 1:10. The ratio of fish to cats is 6:1. What is the ratio of dogs to cats?
3. The ratio of rabbits to guinea pigs in a shop is 2:7. The ratio of brown rabbits to grey rabbits is 2:3.What fraction of the animals in the shop are grey rabbits?
4. The ratio of daisies to fuchsias in my garden is 2:3. The ratio of fuchsias to roses is 10:3. What is the ratio of daisies to fuchsias to roses?
5. I am choosing shapes out of a bag. The ratio of blue shapes to red shapes are 2:1. For the blue shapes, the ratio of spheres to cubes is 2:3. For the red shapes, the ratio of the spheres to cubes is 1:4. Given that there are 12 red spheres, how many blue cubes are there?
6. In a school, 55% of the pupils are girls. Out of the girls, the ratio of ones with blonde hair to ones with brown hair is 2:3. What percentages of pupils are blonde girls?
7. The ratio of lipsticks to eye shadow in my makeup bag is 1:9. The ratio of eye shadow to mascara is 3:2. Given that I have 3 more eye shadows than mascaras, how many lipsticks do I have?
8. I have a box of chocolates with white, milk and dark chocolate in. The ratio of White to Not White is 3:4. The Ratio of Not dark to dark is 17:4. What is the ratio of White: Milk : Dark?
9. I am on a farm with pigs and horses. The ratio of pigs to horses is 4:1. The ratio of adult pigs to piglets is 1:5. The ratio of adult horse to foal is 3:1. What fraction of the farm are babies (foals and piglets)?
10. On a table there are some sandwiches. The ratio of sandwiches with white bread to brown bread is 10:3. Out of the sandwiches that are white, $\frac{2}{3}$ are vegetarian. Out of the sandwiches that are on brown bread, half are vegetarian. What fraction of the sandwiches are vegetarian?
11. The ages of Adam, Ben and Caleb are in the ratio 5:7:11. Next year, they will be in the ratio 8:11:17. How old are they all now?