Final 4th Form Revision Questions

1. I invest £3250 at 6% compound interest for 7 years. How much is it worth after this time? £4886.80

2. 3 years ago I invested a sum of money at 10% compound interest. It is now worth £1663.75. How much money did I originally invest? £1250

3. I bought a car 4 years ago. It lost 9% of its value every year. It originally cost £6580. How much is it worth now? £4512.23

4. Sarah noticed that if she halved her age she gets the same result as she gets when she doubles her age and subtracts 27. How old is Sarah? 18

5. Bob realises that in 8 years he will be three times as old as he is now. How old is Bob now? 4

6. Solve the following equations:

   (a) $\frac{4}{x+1} = 8$. $x = -\frac{1}{2}$

   (b) $\frac{7}{2x-1} = 3$. $x = \frac{5}{3}$

   (c) $\frac{x+3}{x+1} = 4$. $x = -\frac{1}{3}$

   (d) $\frac{4}{3x+4} + 1 = 4$. $x = -\frac{8}{9}$

   (e) $\frac{2-x}{3-2x} - 7 = 1$. $x = \frac{22}{15}$

7. Solve the following equations:

   (a) $\frac{x}{3} - \frac{x+3}{2} + 1 = 3$. $x = -21$

   (b) $\frac{2x+3}{2} + \frac{3+x}{4} = 3 - \frac{x}{2}$. $x = \frac{3}{7}$

   (c) $\frac{x}{5} - \frac{2x-3}{10} + x = 3x - 1$. $x = \frac{13}{20}$

   (d) $\frac{x-5}{3} - \frac{x}{4} + \frac{2x-1}{2} - \frac{x}{2} = 3x - 1$. $x = -\frac{14}{29}$

   (e) $\frac{x+2}{3} + \frac{x}{6} - \frac{x-1}{6} - \frac{x}{3} = x$. $x = \frac{5}{6}$

   (f) $\frac{2x+1}{2} + \frac{x}{5} - \frac{x-1}{10} - \frac{x}{2} - 7 = \frac{x-1}{5} + 2$. $x = \frac{41}{2}$

8. Point T is on a bearing of 156° from N. What is the bearing of N from T? 336°

9. Point R is on a bearing of 302° from L. What is the bearing of L from R? 122°

10. Point J is on a bearing of 209° from K. What is the bearing of K from J? 029°

11. A tower is situated 30m (horizontally) from a point on the ground. The angle of elevation of the top of the tower from that point is 27 degrees. Find the height of the tower. 15.29m

12. Triangle ABC is similar to triangle XYZ (with the letters corresponding in the way you'd expect). If $AB = 11$ and $AC = 7$ and $XZ = 42$, find the length XY. 66