Excellence Revision 2014

1. Find the range of values of p for which the equation $x + 4 = 2\sqrt{(x + p)}$ has two distinct real solutions.

2. Find the equation whose roots are 4 times those of $x^2 + 6x + 12 = 0$

3. Solve the following equation for x in terms of k where $k > 0$

$$\ln(3x - 2) - \ln(x - 5) = 2\ln(k)$$

4. Solve the following equation to find an expression for ***x*** in terms of ***p***: $\log_3(x-\mathrm{p})=2$**.**

5. Solve the equation for ***x*** in terms of ***p*** : $3^{(x-p)} = 2^{(x+p)}$

6. Solve for ***x*** *in terms of* ***t***:

$\log(x+4) - \log(x) = \log(t)$

7. Solve the following equation to find an expression for x in terms of b:
$b\sqrt{(x-b)} = \sqrt{(x+2b)}$ (There is no need to check the validity of your answer.)

8. Solve the following equation for x in terms of c :

$$2^{(x+3)} = 3^{cx}$$

9. Solve for x in terms of a and b

$$a^{(x+2)} = b^{(x-3)}$$