1. Without solving, comment upon the nature of roots of each of the following equations :

   (i) $7x^2 - 9x + 2 = 0$     (ii) $6x^2 - 13x + 4 = 0$

   (iii) $25x^2 - 10x + 1 = 0$  (iv) $x^2 + 2\sqrt{3}x - 9 = 0$

   (v) $x^2 - ax - b^2 = 0$     (vi) $2x^2 + 8x + 9 = 0$

2. Find the value of 'p', if the following quadratic equations have equal roots :

   (i) $4x^2 - (p - 2)x + 1 = 0$

   (ii) $x^2 + (p - 3)x + p = 0$                     [2013]

3. The equation $3x^2 - 12x + (n - 5) = 0$ has equal roots. Find the value of $n$.

4. Find the value of 'm', if the following equation has equal roots :

   $(m - 2)x^2 - (5 + m)x + 16 = 0$

5. Find the value of $k$ for which the equation $3x^2 - 6x + k = 0$ has distinct and real root.

                                                  [2015]