

1. Find the value of 'k' if $(x-2)$ is a factor of
 $P(x) = 3x^2 - 5x + k$

Ans) Let $P(x) = 3x^2 - 5x + k$

$(x-2)$ is a factor of $P(x)$

$$\begin{aligned}\therefore P(2) &= 3 \times 2^2 - 5 \times 2 + k = 0 \\ &= 12 - 10 + k = 0 \\ &= 2 + k = 0\end{aligned}$$

$$\therefore k = 0 - 2$$

$$k = \underline{\underline{-2}}$$

2. The solutions of $x^2 + ax + b = 0$ are 3 and -4.

a) write $x^2 + ax + b$ as the product of two first degree polynomials

b) Find the values of a and b .

Ans) a) $x^2 + ax + b = (x-3)(x+4)$

b) $a = 6, b = -6$