Exercise 2B

Question 5:
(i) p(x) = x - 4
Then, p(4) = 4 - 4 = 0
⇒ 4 is a zero of the polynomial p(x).

(ii) p(x) = x - 3
Then, p(-3) = -3 - 3 = -6
⇒ -3 is not a zero of the polynomial p(x).

(iii) $p(y) = 2y + 1$

Then, $p\left(-\frac{1}{2}\right) = 2\left(\frac{-1}{2}\right) + 1 = 0$

$\Rightarrow \frac{-1}{2}$ is a zero of the polynomial p(y).

(iv) $p(x) = 2 - 5x$

Then, $p\left(\frac{2}{5}\right) = 2 - 5\left(\frac{2}{5}\right) = 2 - 2 = 0$

$\Rightarrow \frac{2}{5}$ is a zero of the polynomial p(x).

(v) p(x) = (x - 1) (x - 2)
Then, p(1) = (1 - 1) (1 - 2) = 0 -1 = 0
⇒ 1 is a zero of the polynomial p(x).
Also, p(2) = (2 - 1)(2 - 2) = 1 0 = 0
⇒ 2 is a zero of the polynomial p(x).
Hence, 1 and 2 are the zeroes of the polynomial p(x).

(vi) $p(x) = x^2 - 3x$.
Then, $p(0) = 0^2 - 3(0) = 0$
$p(3) = (3^2) - 3(3) = 9 - 9 = 0$
⇒ 0 and 3 are the zeroes of the polynomial p(x).

(vii) $p(x) = x^2 + x - 6$
Then, $p(2) = 2^2 + 2 - 6$
= 4 + 2 - 6
= 6 - 6 = 0
⇒ 2 is a zero of the polynomial p(x).
Also, $p(-3) = (-3)^2 - 3 - 6$
= 9 - 3 - 6 = 0
⇒ -3 is a zero of the polynomial p(x).
Hence, 2 and -3 are the zeroes of the polynomial p(x).

********** END **********