

$$3\text{(ii)} \quad p(x) = x^2 - 1$$

$$p(1) = 1^2 - 1 \\ = 1 - 1 \\ = 0$$

$$p(-1) = (-1)^2 - 1 \\ = 1 - 1 \\ = 0$$

$\therefore \pm 1$  are zeros of  $p(x)$

$$3\text{(iv)} \quad p(x) = (x+1)(x-2)$$

$$p(-1) = (-1+1)(-1-2) \\ = 0 \times (-3) \\ = 0$$

$$p(2) = (2+1)(2-2) \\ = 3 \times 0 \\ = 0$$

$\therefore -1, 2$  are zeros of  $p(x)$

$$3\text{(v)} \quad p(x) = x^2$$

$$p(0) = 0^2 \\ = 0$$

$\therefore 0$  is a zero of  $p(x)$

$$3\text{(vi)} \quad p(x) = lx + m$$

$$p\left(-\frac{m}{l}\right) = l \times -\frac{m}{l} + m \\ = -m + m \\ = 0$$

$\therefore 0$  is a zero of  $p(x)$

$$3\text{(vii)} \quad p(x) = 3x^2 - 1$$

$$p\left(-\frac{1}{\sqrt{3}}\right) = 3 \times \left(\frac{1}{\sqrt{3}}\right)^2 - 1 \\ = 3 \times \frac{1}{3} - 1$$

$$= 1 - 1 \\ = 0$$

$$p\left(\frac{2}{\sqrt{3}}\right) = 3 \times \left(\frac{2}{\sqrt{3}}\right)^2 - 1 \\ = 3 \times \frac{4}{3} - 1$$

$$= 4 - 1$$

$$= 3 \neq 0$$

$\therefore -\frac{1}{\sqrt{3}}$  is a zero of  $p(x)$   
 $\frac{2}{\sqrt{3}}$  is not a zero of  $p(x)$

$$3\text{(viii)} \quad p(x) = 2x + 1$$

$$p\left(\frac{1}{2}\right) = 2 \times \frac{1}{2} + 1$$

$$= 1 + 1$$

$$= 2$$

$$\neq 0$$

$\frac{1}{2}$  is not a zero of  $p(x)$

$$4\text{(i)} \quad p(x) = x + 5$$

For finding zero

$$x + 5 = 0$$

$$\Rightarrow x = -5$$

$\therefore -5$  is a zero of  $p(x)$