$$\begin{split} \mathbf{f}(2) &= 2 \quad \mathbf{f}(-1) \neq 0 \quad \mathbf{f}(\frac{1}{2}) \neq 0 \quad \stackrel{\text{When } \mathbf{f}(x) \text{ is divided}}{\underset{y(x+1), \text{ the } \text{remainder is } 2}{} \\ \mathbf{f}(-\frac{1}{2}) &= 2 \quad \mathbf{f}(1) = 2 \quad \stackrel{(x+1) \text{ is not } \mathbf{a}}{\underset{\text{factor of } \mathbf{f}(x)}{}} \quad \mathbf{f}(-1) &= 0 \\ \mathbf{f}(\frac{1}{2}) &= 0 \quad \stackrel{\text{When } \mathbf{f}(x) \text{ is divided}}{\underset{y(x-2), \text{ the } \text{remainder is } 2}{} \quad \mathbf{f}(2) &= 0 \quad \mathbf{f}(-2) &= 0 \\ \mathbf{f}(-1) &= 2 \quad \mathbf{f}(1) &= 0 \quad \stackrel{\text{When } \mathbf{f}(x) \text{ is divided}}{\underset{y(2x-1), \text{ the } \text{remainder is } 2}{} \quad \frac{\text{When } \mathbf{f}(x) \text{ is divided}}{\underset{y(2x+1), \text{ the } \text{remainder is } 2}{} \quad \frac{\text{When } \mathbf{f}(x) \text{ is divided}}{\underset{y(2x+1), \text{ the } \text{remainder is } 2}{} \end{split}$$

(x+1) is a factor of $f(x)$	$f(\frac{1}{2}) = 2$	(x+2) is a factor of $f(x)$	f(-2) = 2
(2x+1) is a factor of $f(x)$	$f(1) \neq 0$	(x-1) is a factor of $f(x)$	(x-2) is a factor of $f(x)$
when $f(x)$ is divided by $(x-1)$, the remainder is 2	(2x-1) is not a factor of $f(x)$	(x-1) is not a factor of $f(x)$	Finish