

EUCLIDIAN DIVISION applications

$$a = b.q + r \text{ with } 0 \leq r < b$$

1. Let n be a Natural Number such that $2n + 1 = 2(n - 3) + 7$.

Find the values of n such that $(n - 3)$ is a factor of $(2n + 1)$

2. Let n be a Natural Number such that $n^2 - n + 3 = (n - 2)(n + 1) + 5$

Find the values of n such that $(n + 1)$ is a factor of $(n^2 - n + 3)$

3. For which values of n can the fraction $\frac{3n+8}{n+4}$ be simplified into an Integer ?
