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Name ： $\square$
Mathematics－＋＋Junior 8.5
Exercises \＃ 5 －May 16th 2011－p．1／1

## EUCLIDIAN DIVISION applications

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

1．Let $n$ be a Natural Number such that $2 n+1=2(n-3)+7$ ．
Find the values of $\mathbf{n}$ such that $(n-3)$ is a factor of $(2 n+1)$

2．Let $\mathbf{n}$ be a Natural Number such that $\mathbf{n}^{2}-\mathbf{n}+3=(n-2)(n+1)+5$
Find the values of $n$ such that $(n+1)$ is a factor of $\left(n^{2}-n+3\right)$

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

