5.

Which of the following is the remainder of $-3\,g^3 + 3\,g^2 + 3\,g + 1$ divided by g

$$
\begin{array}{llll}
 & & +(-3\,g^2) & +(3\,g) & +(3) \\
\hline
g & (-3)\,g^3 & +(3)\,g^2 & +(3)\,g & +(1) \\
 & (-3\,g^3) & & & \\
 & & +(3)\,g^2 & +(3)\,g & +(1) \\
 & & +(3\,g^2) & & \\
 & & & +(3)\,g & +(1) \\
 & & & +(3\,g) & \\
 & & & & +(1)
\end{array}
$$