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

$$(-1) s^3 + (3) s^2 + (1) s + (2)$$

$$+((-s^2))$$

+ (4) s² + (1) s + (2)

$$+(4s)$$

+ (-3)s + (2)