

4.15

$$\begin{aligned} 1) \quad u_2 &= u_1 \cdot r = 1 \cdot (-2) = -2 \\ u_3 &= u_2 \cdot r = (-2) \cdot (-2) = 4 \\ u_4 &= u_3 \cdot r = 4 \cdot (-2) = -8 \\ u_5 &= u_4 \cdot r = (-8) \cdot (-2) = 16 \\ u_6 &= u_5 \cdot r = 16 \cdot (-2) = -32 \end{aligned}$$

$$\begin{aligned} 2) \quad u_2 &= u_1 \cdot r = 1 \cdot \frac{1}{2} = \frac{1}{2} \\ u_3 &= u_2 \cdot r = \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4} \\ u_4 &= u_3 \cdot r = \frac{1}{4} \cdot \frac{1}{2} = \frac{1}{8} \\ u_5 &= u_4 \cdot r = \frac{1}{8} \cdot \frac{1}{2} = \frac{1}{16} \\ u_6 &= u_5 \cdot r = \frac{1}{16} \cdot \frac{1}{2} = \frac{1}{32} \end{aligned}$$