B.

1) $2z^2 - \dfrac{8z^6}{6} + \dfrac{32z^{10}}{120} - \dfrac{128z^{14}}{5040} + \text{ooo}$

2) $\dfrac{1}{2} - \dfrac{z^4}{4} + \dfrac{z^8}{8} - \dfrac{z^{12}}{16} + \text{ooo}$ \qquad $|z| < \sqrt[4]{2}$

3) $1 - 5iz + 25z^2 + 125i\,z^3 + \text{ooo}$ \qquad $|z| < \dfrac{1}{5}$

4) $\dfrac{1}{2} + \dfrac{1}{2} \displaystyle\sum_{n=0}^{\infty} \dfrac{(-1)^n z^{2n}}{(2n)!}$

5) $\dfrac{1}{2} - \dfrac{1}{2} \displaystyle\sum_{n=0}^{\infty} (-1)^n \dfrac{(2z)^{2n}}{(2n)!}$

C.

1) $-i + (z-i) + i(z-i)^2 - (z-i)^3 - i(z-i)^4 + \text{ooo}$

2) $\displaystyle\sum_{n=0}^{\infty} \dfrac{(z-i)^n}{(1-i)^{n+1}}$

3) $1 - \dfrac{1}{2}\left(z - \dfrac{\pi}{2}\right)^2 + \dfrac{1}{24}\left(z - \dfrac{\pi}{2}\right)^4 + \text{ooo}$

4) $\displaystyle\sum_{n=0}^{\infty} \dfrac{(-1)^n e^2}{n!}(z+2)^n$

5) $2 \displaystyle\sum_{n=0}^{\infty} \dfrac{(-1)^n \pi^{2n+1}}{(2n+1)!}\left(z + \dfrac{1}{2}\right)^{2n+1}$