* Alternative way of finding the inverse Z-transform.

① Inspection:

Example 10.12

$$X(z) = 4z^2 + 2 + 3z^{-1} \quad \text{for } 0 < |z| < \infty$$

Find $x[n]$

Ans:

② Inspection plus power series.

$$X(z) = e^z \quad \text{for } |z| < 1$$

Find $x[n]$

Ans:

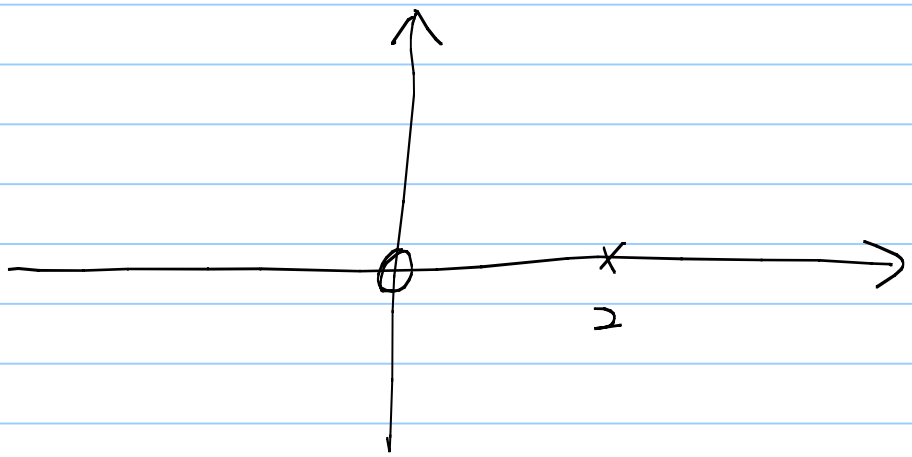
Exercise Example 10.13. 10.14

* To discuss the ROC of a Z transform, we need the **pole-zero plot** of a Z-transform

poles:

zeros:

Example: $X(z) = \frac{1}{1 - 2z^{-1}}$



* Make sure to check

* When computing the poles & zeros, we temporarily ignore the ROC.

One of the very important properties of Z-transform:

$$y[n] = x[n] * h[n]$$