The following chart can help understand the question

The cash conversion cycle is given by

\[ \text{Cash conversion cycle (CCC)} = \text{Inventory conversion period} + \text{receivable collection period} - \text{payable deferral period} \]

i.e. \( 85 + 70 - 35 = 120 \) days

Its assumed an year has 360 days.

Cash turnover = \( \frac{360}{\text{CCC}} = \frac{360}{120} = 3 \) Times

NB: Alternative formula:

\[ \text{CCC} = \left\{ \frac{360}{\text{cost of sales}} + \frac{\text{receivable}}{\text{sales}} - \frac{\text{payable+actuals}}{\text{cash operating expenses}} \right\} \]
The highest limit, H, is given by:  \( H = 3z - 2L \)

\[ \text{The average cost balance} = \frac{4Z - L}{3} \]

Where:
- \( Z \) = target cash balance
- \( H \) = upper limit
- \( L \) = lower limit
- \( B \) = fixed transaction cost
- \( i \) = opportunity cost of daily basis
- \( \sigma^2 \) = variance of net daily cash flows

**Illustration**

XYZ: Management has set the minimum cash balance to be equal to Shs10,000. The standard deviation of daily cash flows is Shs 2,500 and the interest rate in marketable securities is 9% p.a. The transaction cost for each sale or purchase of securities is Shs 20.

**Required:** calculate;

a) The target cash balance
b) Upper limit
c) Average cash balance
d) The spread

**Solution**

\[ a) \quad Z = \left[ \frac{3B\sigma^2}{4i} \right]^{1/3} + L = \left( \frac{3 \times 20 \times 2500}{4 \times \frac{9\%}{360}} \right)^{1/3} + 1000 \]

\[ b) \quad H = 32 - 2L = 3 \times 17,211 - 2 \times 10,000 = \text{Shs} \ 31,933 \]

\[ c) \quad \text{Av. Cash balance} = \frac{4z - L}{3} = \frac{4 \times 17,211 - 10,000}{3} \]