Payback Period:

If the cash inflows are even (such as for investments in annuities), the formula to calculate payback period is:

$$\text{Payback Period} = \frac{\text{Initial Investment}}{\text{Net Cash Flow per Period}}$$

When cash inflows are uneven, we need to calculate the *cumulative net cash flow* for each period and then use the following formula:

$$\text{Payback Period} = A + \frac{B}{C}$$

Where,
A is the last period number with a negative cumulative cash flow;
B is the absolute value (i.e. value without negative sign) of cumulative net cash flow at the end of the period A; and
C is the total cash inflow during the period following period A

Payback Period:

Example 1: **Even Cash Flows Company C is planning to undertake a project requiring initial investment of $105 million. The project is expected to generate $25 million per year in net cash flows for 7 years. Calculate thepayback period of the project.** **Solution**

Payback Period

= Initial Investment ÷ Annual Cash Flow

= $105M ÷ $25M

= 4.2 years

Example 2: **Uneven Cash Flows Company C is planning to undertake another project requiring initial investment of $50 million and is expected to generate $10 million net cash flow in Year 1, $13 million in Year 2, $16 million in year 3, $19 million in Year 4 and $22 million in Year 5. Calculate the payback value of the project.**

Solution

Year	*(cash flows in millions)*	
	Annual Cash Flow	Cumulative Cash Flow
0	(50)	(50)
1	10	(40)
2	13	(27)
3	16	**(11)**
4	**19**	8
5	22	30

Payback Period = 3 + 11/19 = 3 + 0.58 ≈ 3.6 years