9.3 Investment appraisal

Name: _____ Class: _____ Date: _____ **Total: 12 marks**

KEY WORDS net present value • internal rate of return

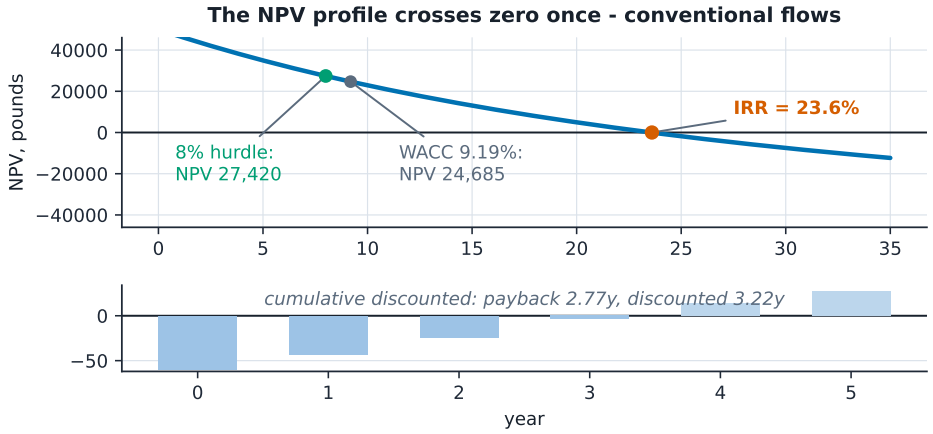
Objective

Compute NPV, IRR and payback with correct conventions; rank projects by NPV; state what each rule answers.

1 Key knowledge and worked examples

■ The referee and the commentary

NPV decides (pounds today); IRR summarises (a rate); payback notes exposure (years). Rank mutually exclusive projects by NPV – IRR ignores scale.



The profile crosses zero once

■ Worked example. The second site

NPV@8% 27,420; @9.19% 24,685; IRR 23.6%; payback 2.77y, discounted 3.22y ✓ – all three quoted, NPV decides.

2 Practice

A bakery oven: −28,000; +9,000; +11,000; +12,000; +10,000 (years 1–4). The firm's cost of capital is 10%.

2.1 Compute the NPV at 10% (nearest pound). [3]

2.2 The IRR is 18.0% and payback is 2.67 years – verify the payback, showing the cumulative recoveries. [3]

2.3 A rival project needs −6,000 and returns 2,400 a year for four years: NPV 1,608, IRR 21.9%. Which project does the firm choose if only one fits, and which rule says so? [3]

2.4 In one line each: what question does each of the three rules answer? [3]