Two options are considered for an engine part:

A complete in-house manufacturing, with initial equipment cost of 50k, labor cost of 26k, material cost of 10 per engine part.

partial manufacture that is partially finished engine parts are purchased with initial equipment cost of 35k, labor cost of 10k per year, material cost of 3 per engine part, and an additional cost of 40 per partially finished engine part.

**A initial equipment cost:**50k

**Labor cost:**26k per year

**Material cost:**10$ per engine part

**A initial equipment cost:**35k

**Labor cost:**10k per year

**Material cost:**3$ per engine part

**Additional cost** 40$ per partially finished engine part

Any equipment purchased will have a life of 6 years. If the MARR is 0.1 per year, determine the number of engine parts that must be manufactured to justify a. complete in-house manufacture and b. partial manufacture. C. plot the total cost lines.

General parameters

**Life:** 6 years

**Marr interest rate:** 1.1

AWmake=-50k\*A/P(1.1,6)-26k-10x

AWmake=-35k\*A/P(1.1,6)-10k-3x-40x

X=589.12.