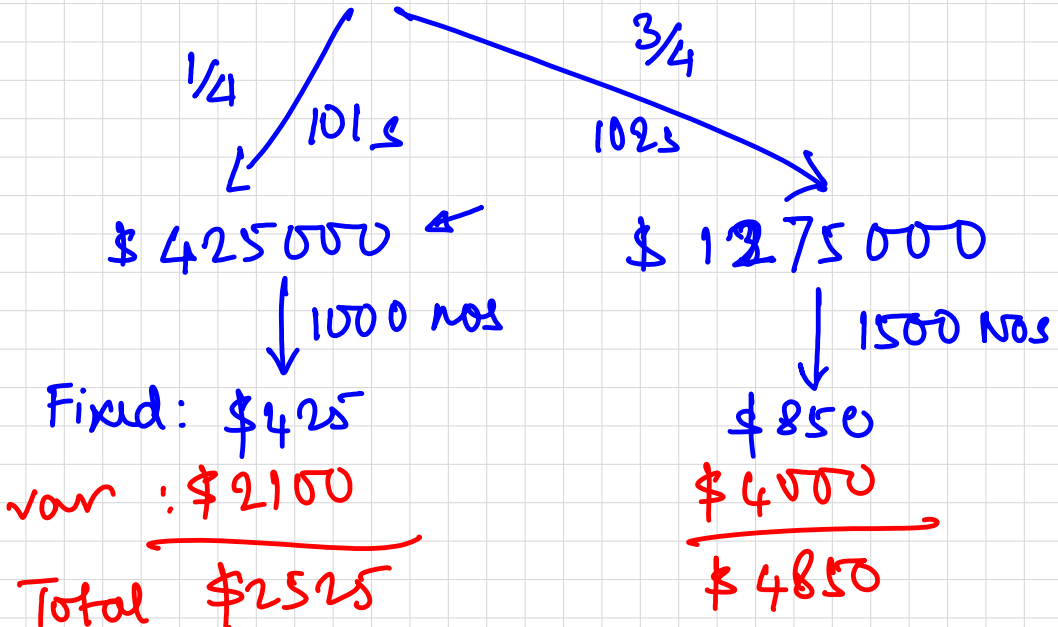
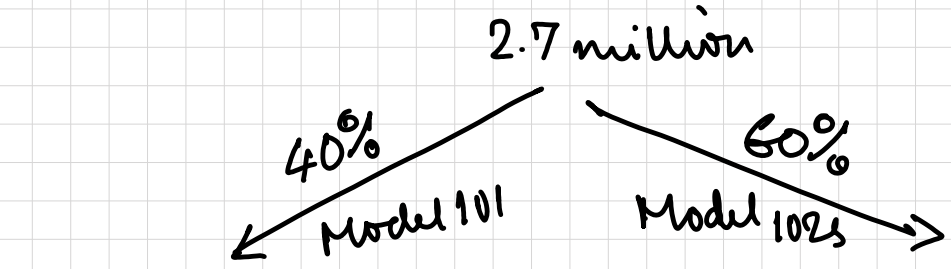
June 20, 2020

1.7 Million : Engine assy



Model 101s → 1000 hrs 1/4

102s → 3000 hrs 3/4



$1080 000

↓ 1000 Nos

Fixed $1080

Var $2400

Total $3480

Availability: 6000 hrs

uses 33% of

. Model 101s: 2000 hrs × 40% pays for

. Model 102s: 3000 hrs. 1.5x 60% pays

uses 50%.

Total Profits : (Revenue/unit) × #units

− { fixed costs total

+

(variable costs/unit) × #units }

= (Revenue/unit − var. cost/unit) × #units

CONTRIBUTION

− total fixed costs

= contribution/unit × #units − total fixed costs.

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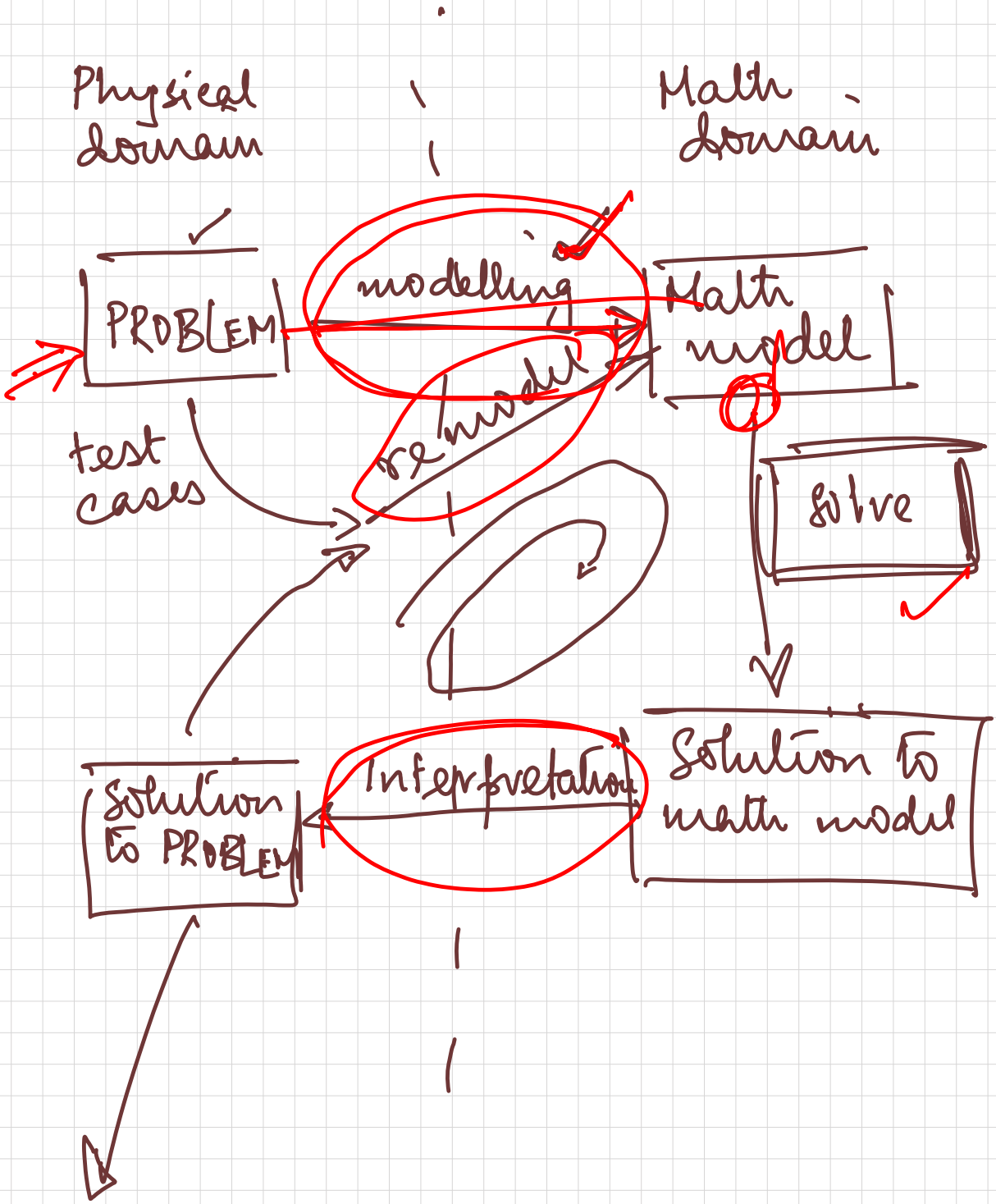
find the number of model 101s and the number of model 102s such that

3000 × #model 101s + 5000 × #model 102s is maximum.


Physical domain
Math domain
PROBLEM
modelling
Math model
re model
test cases
Solve
Solution to PROBLEM
Interpretation
Solution to math model