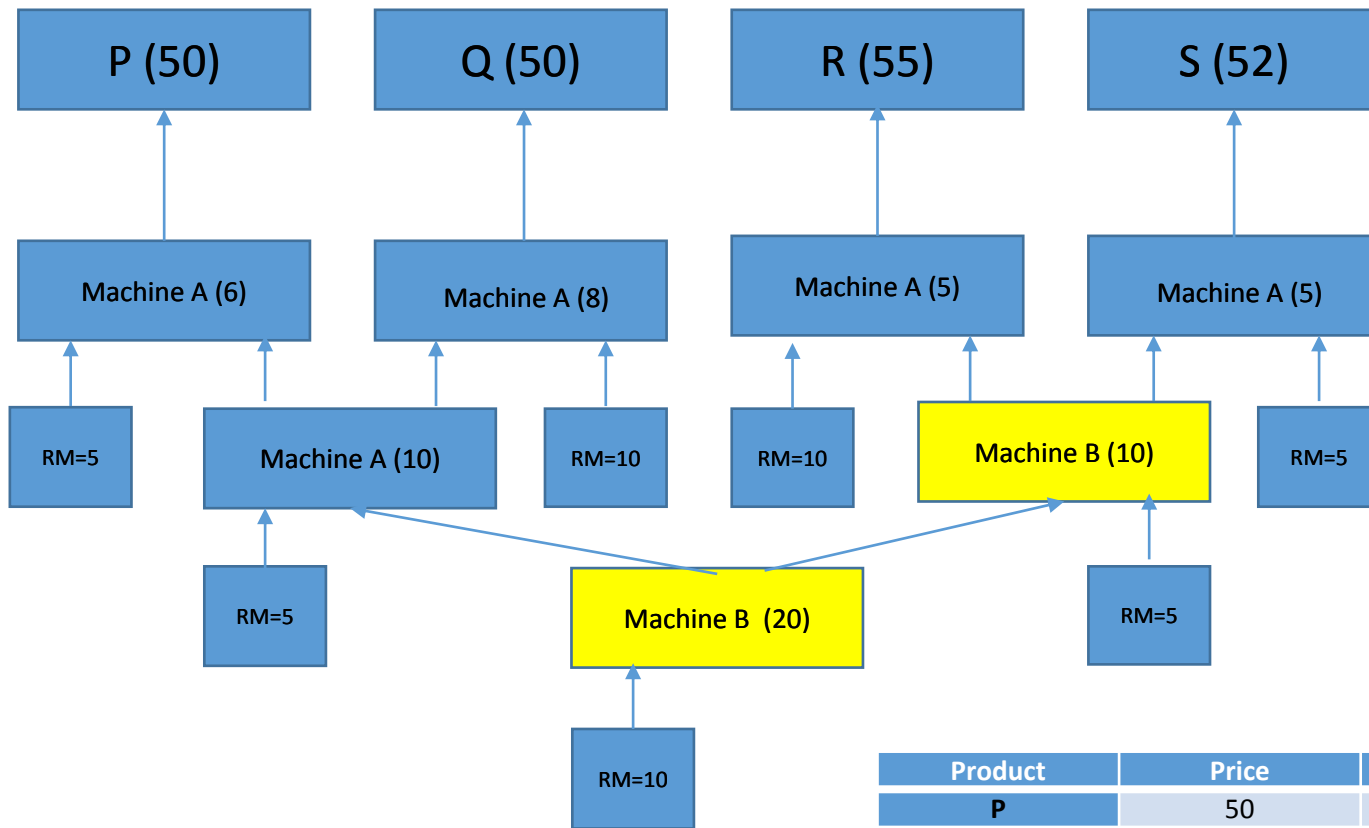


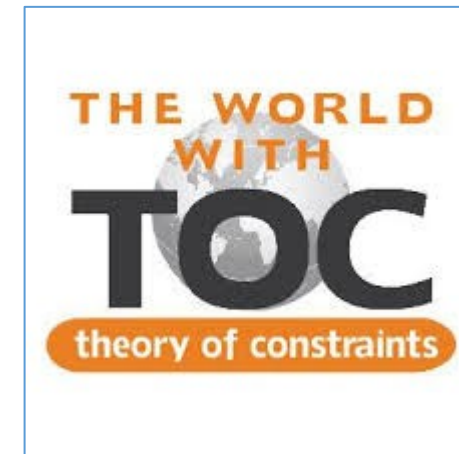
# Product mix and TOC



8 hours /day=480, cost/hour/resource=10 USD  
 To produce P or Q->20 minutes of B (bottleneck)  
 To produce R or S->30 minutes of B (bottleneck)

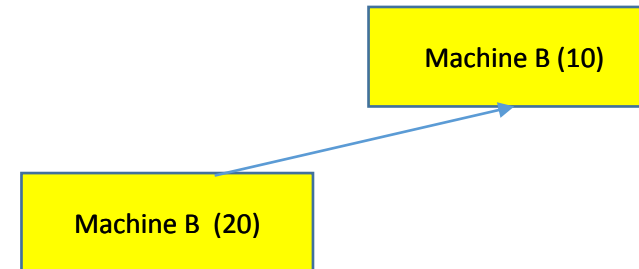
Product	Price	Material	Work (min USD)	Profit
P	50	20	36 min (6 USD)	50-20-6=24
Q	50	25	38 min (6,33 USD)	50-25-6,33=18,67
R	55	25	35 min (5,83 USD)	55-25-5,83=24,17
S	52	20	35 min (5,83 USD)	52-20-5,83=26,17

# Four different approaches how to solve the product mix



# Classic approach – highest margin (accountant) – **S product**

- $52 * 16 \text{ pcs} - 20 * 16 \text{ pcs} - 2 \text{ workers} * 8 \text{ hours} * 10 \text{ USD/hour} = \underline{352 \text{ USD/day}}$
- Where  $16 = 480 / 30 = 16 = 480 / (20 + 10)$
- $20 + 10$  is capacity of machine B to produce S



# Marketing approach – highest selling price **R** product

- $55 * 16 \text{ pcs} - 25 * 16 \text{ pcs} - 2 \text{ workers} * 8 \text{ hours} * 10 \text{ USD/hour} = \underline{320 \text{ USD/day}}$
- Where  $16 = 480 / 30 = 16 = 480 / (20 + 10)$
- $20 + 10$  is capacity of machine B to produce R



# Production approach – highest machine efficiency **Q** **product**

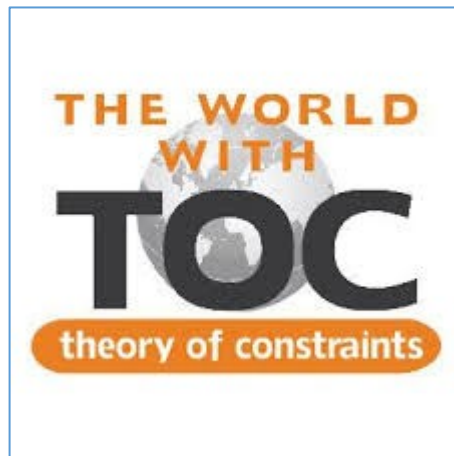
- $50 * 24 \text{ pcs} - 25 * 24 \text{ pcs} - 2 \text{ workers} * 8 \text{ hours} * 10 \text{ USD/hour} = 440 \text{ USD/day}$
- Where  $24 = 480 / 20$
- 20 is capacity of machine B to produce Q

Machine B (20)



# TOC approach – highest use of bottleneck **P** product

- $50 * 24 \text{ pcs} - 20 * 24 \text{ pcs} - 2 \text{ workers} * 8 \text{ hours} * 10 \text{ USD/hour} = 560 \text{ USD/day}$
- Where  $24 = 480 / 20$
- 20 is capacity of machine B to produce P



# Results

• Accounting approach	S	\$352	100%
• Sales-Higher Sales Price	R	\$320	90%
• Production-Efficiency	Q	\$440	125%
• <b>TOC approach</b>	<b>P</b>	<b>\$560</b>	<b>159%</b>