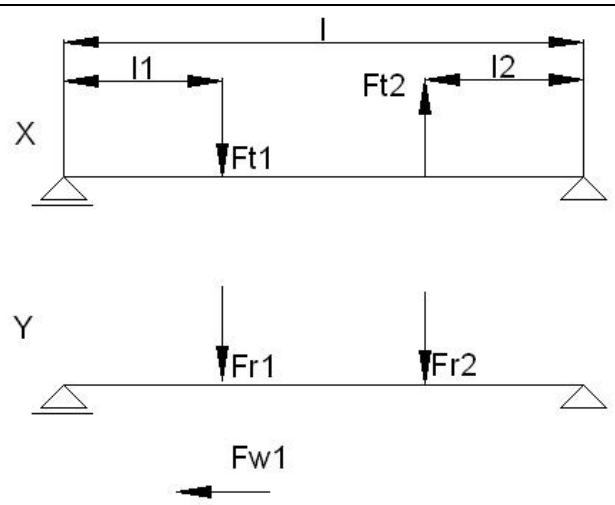
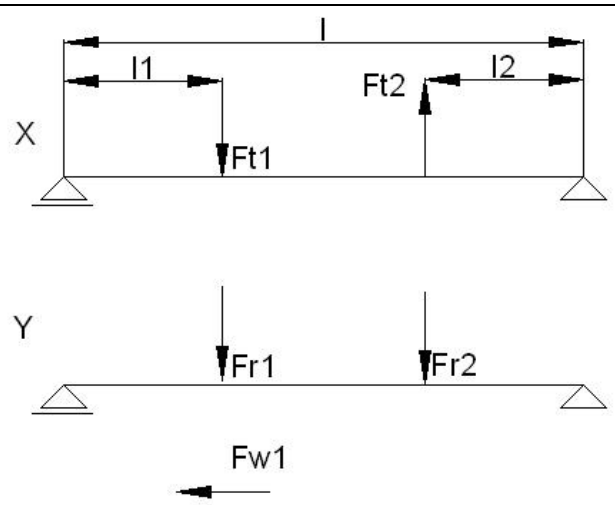
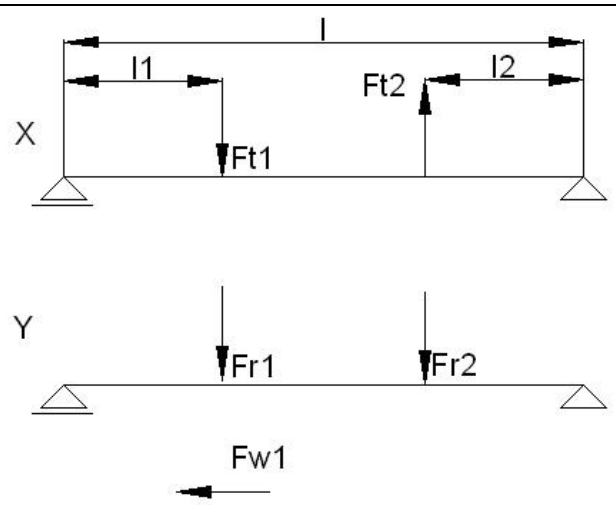


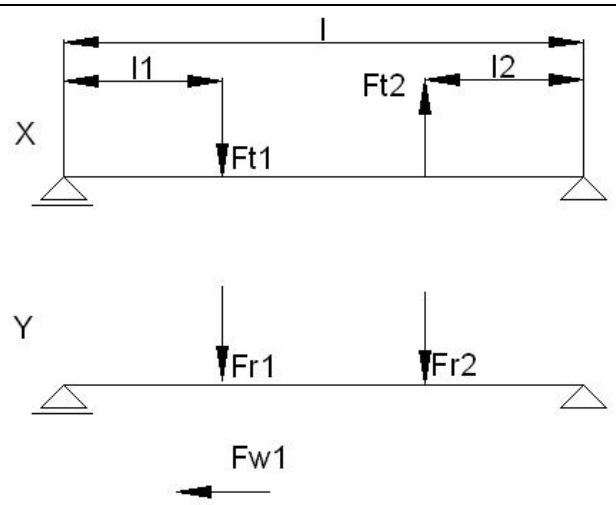
Student: Badiane Lamine
Problem nr: 1
Determine the dimensions of the shaft if it is made of steel C45 (kgo=80MPa, kgj=125MPa, kso=45MPa, ksj=85MPa).
The shaft transfers the torque T= 152Nm
Additional assumption: variable direction of rotation of gears. The shaft dimensions defined in the drawing are as follows:
l1=60mm; l2=80mm; l=200mm
The dimensions of the gears are as follows:
D1=200mm, D2=150mm
The force values are as follows:
Ft1=1520N; Fr1=553N; Fw1=200N
Ft2=2026N; Fr2=737N



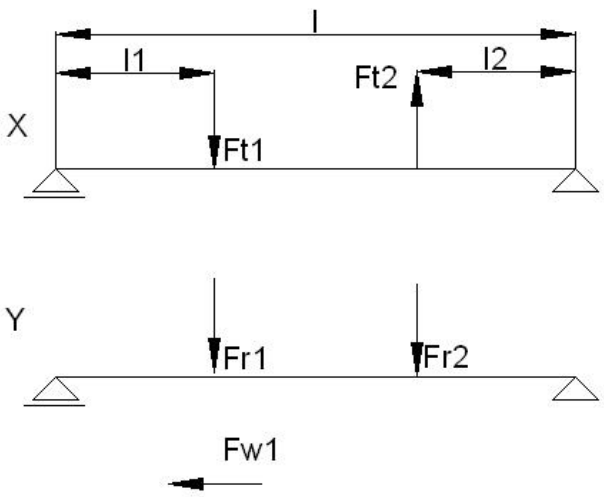
Student: Kamiloğlu Eylül Bahar
Problem nr: 2
Determine the dimensions of the shaft if it is made of steel C55 (kgo=90MPa, kgj=140MPa, kso=50MPa, ksj=95MPa).
The shaft transfers the torque T= 127Nm
Additional assumption: variable direction of rotation of gears. The shaft dimensions defined in the drawing are as follows:
l1=66mm; l2=88mm; l=220mm
The dimensions of the gears are as follows:
D1=250mm, D2=150mm
The force values are as follows:
Ft1=1016N; Fr1=369N; Fw1=300N
Ft2=1693N; Fr2=616N



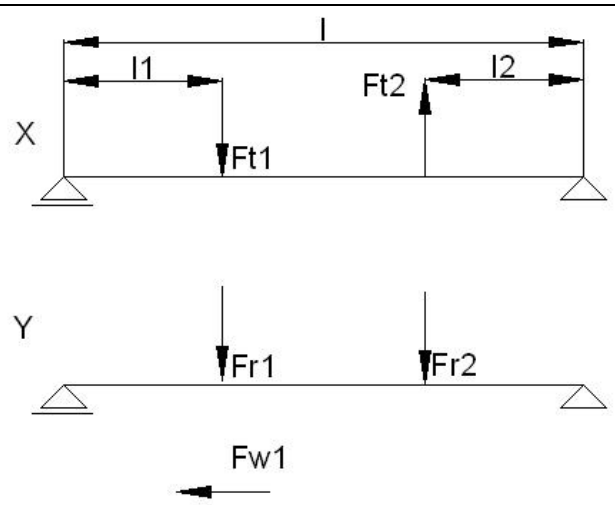
Student: Mohamed Mohanad Adel Abdelazeem
Problem nr: 3
Determine the dimensions of the shaft if it is made of steel C25 (kgo=65MPa, kgj=100MPa, kso=35MPa, ksj=70MPa).
The shaft transfers the torque T= 119Nm
Additional assumption: constant rotation direction. The shaft dimensions defined in the drawing are as follows: l1=72mm; l2=96mm; l=240mm
The dimensions of the gears are as follows:
D1=300mm, D2=200mm
The force values are as follows:
Ft1=793N; Fr1=288N; Fw1=250N
Ft2=1190N; Fr2=433N



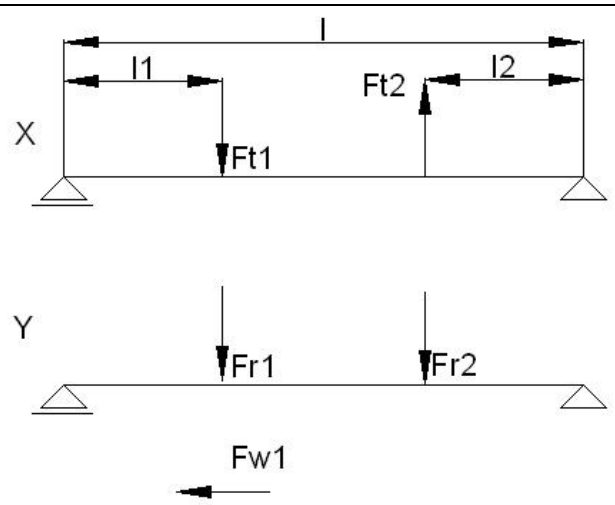
Student: Muhala Norman Tawanda
Problem nr: 4
Determine the dimensions of the shaft if it is made of steel C35 (kgo=70MPa, kgj=110MPa, kso=40MPa, ksj=75MPa).
The shaft transfers the torque T= 95Nm
Additional assumption: constant rotation direction. The shaft dimensions defined in the drawing are as follows: l1=78mm; l2=104mm; l=260mm
The dimensions of the gears are as follows:
D1=350mm, D2=250mm
The force values are as follows:
Ft1=542N; Fr1=197N; Fw1=400N
Ft2=760N; Fr2=276N



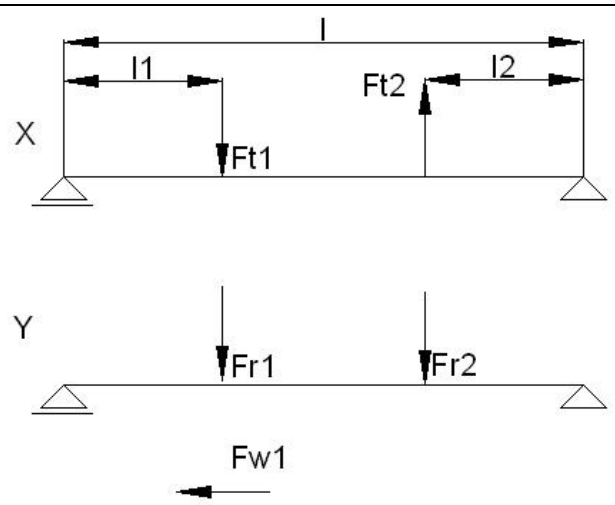
Student: Naili Amin
Problem nr: 5
Determine the dimensions of the shaft if it is made of steel C55 (kgo=90MPa, kgj=140MPa, kso=50MPa, ksj=95MPa).
The shaft transfers the torque T= 114Nm
Additional assumption: variable direction of rotation of gears. The shaft dimensions defined in the drawing are as follows:
l1=84mm; l2=112mm; l=280mm
The dimensions of the gears are as follows:
D1=400mm, D2=250mm
The force values are as follows:
Ft1=570N; Fr1=207N; Fw1=500N
Ft2=912N; Fr2=331N



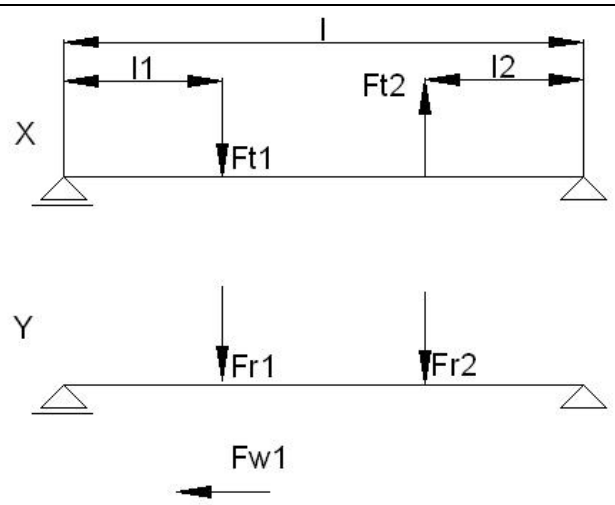
Student: Tawfik Abdulrahman
Problem nr: 6
Determine the dimensions of the shaft if it is made of steel C45 (kgo=80MPa, kgj=125MPa, kso=45MPa, ksj=85MPa).
The shaft transfers the torque T= 143Nm
Additional assumption: variable direction of rotation of gears. The shaft dimensions defined in the drawing are as follows:
l1=90mm; l2=120mm; l=300mm
The dimensions of the gears are as follows:
D1=200mm, D2=150mm
The force values are as follows:
Ft1=1430N; Fr1=520N; Fw1=700N
Ft2=1906N; Fr2=693N



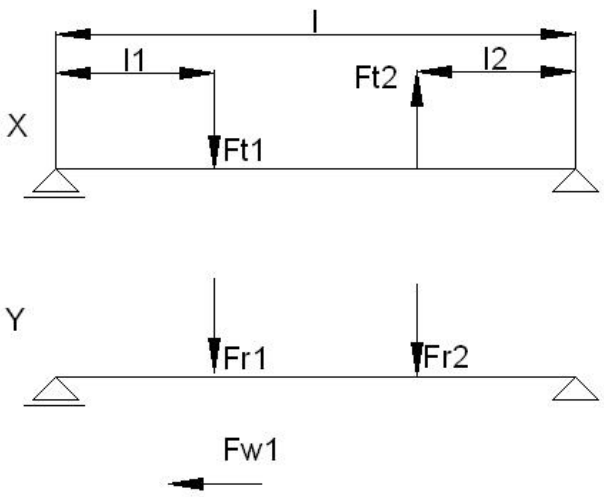
Student: Hachem Boushaba
Problem nr: 7
Determine the dimensions of the shaft if it is made of steel C35 (kgo=70MPa, kgj=110MPa, kso=40MPa, ksj=75MPa).
The shaft transfers the torque T= 111Nm
Additional assumption: constant rotation direction. The shaft dimensions defined in the drawing are as follows: l1=96mm; l2=128mm; l=320mm
The dimensions of the gears are as follows:
D1=250mm, D2=150mm
The force values are as follows:
Ft1=888N; Fr1=323N; Fw1=340N
Ft2=1480N; Fr2=538N



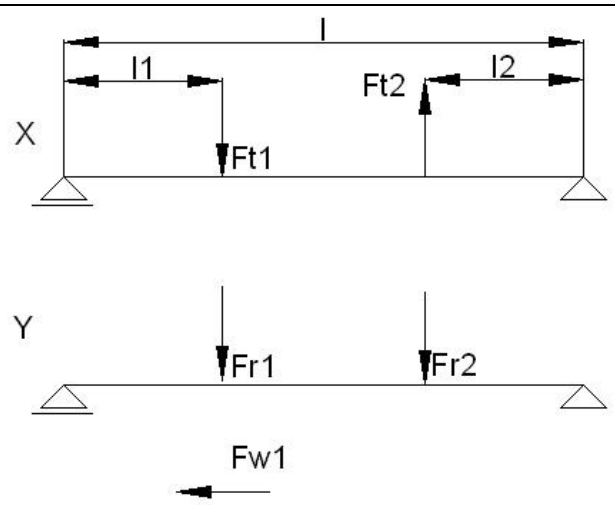
Student: Khiter Abdennour
Problem nr: 8
Determine the dimensions of the shaft if it is made of steel C25 (kgo=65MPa, kgj=100MPa, kso=35MPa, ksj=70MPa).
The shaft transfers the torque T= 121Nm
Additional assumption: constant rotation direction. The shaft dimensions defined in the drawing are as follows: l1=102mm; l2=136mm; l=340mm
The dimensions of the gears are as follows:
D1=300mm, D2=200mm
The force values are as follows:
Ft1=806N; Fr1=293N; Fw1=270N
Ft2=1210N; Fr2=440N



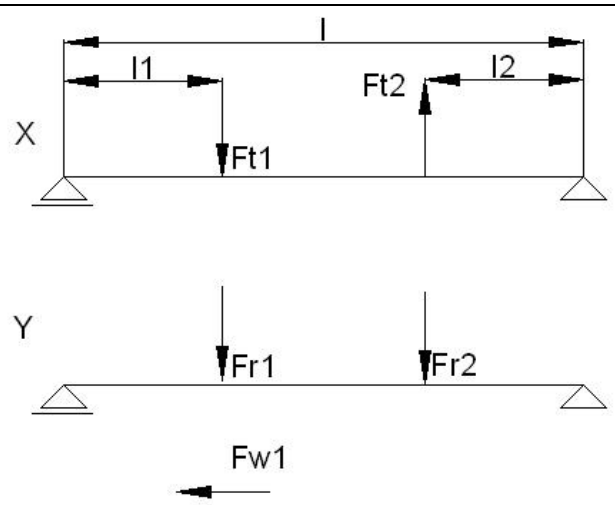
Student: Bachir Salah Eddine
Problem nr: 9
Determine the dimensions of the shaft if it is made of steel C55 (kgo=90MPa, kgj=140MPa, kso=50MPa, ksj=95MPa).
The shaft transfers the torque T= 152Nm
Additional assumption: variable direction of rotation of gears. The shaft dimensions defined in the drawing are as follows:
l1=108mm; l2=72mm; l=360mm
The dimensions of the gears are as follows:
D1=350mm, D2=250mm
The force values are as follows:
Ft1=868N; Fr1=315N; Fw1=550N
Ft2=1216N; Fr2=442N



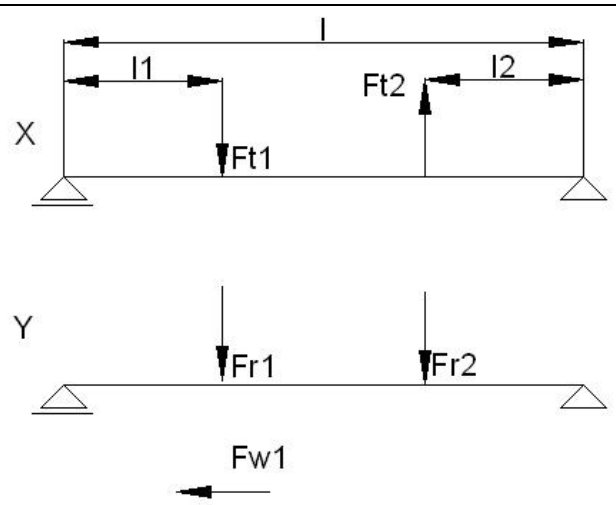
Student: Salma Rhayate
Problem nr: 10
Determine the dimensions of the shaft if it is made of steel C35 (kgo=70MPa, kgj=110MPa, kso=40MPa, ksj=75MPa).
The shaft transfers the torque T= 305Nm
Additional assumption: constant rotation direction. The shaft dimensions defined in the drawing are as follows: l1=114mm; l2=76mm; l=380mm
The dimensions of the gears are as follows:
D1=400mm, D2=250mm
The force values are as follows:
Ft1=1525N; Fr1=555N; Fw1=700N
Ft2=2440N; Fr2=888N



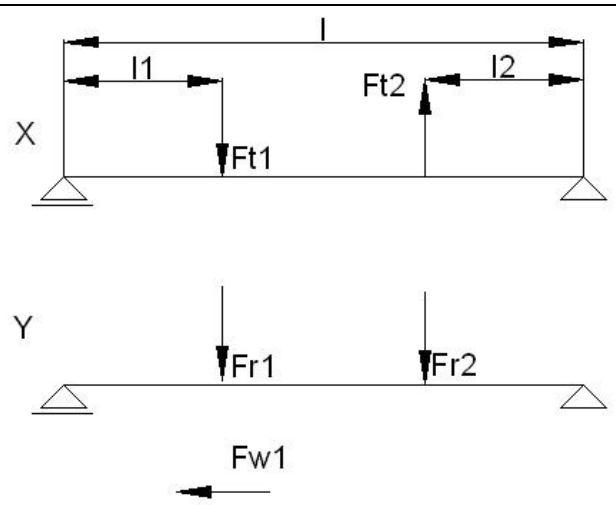
Student: Zarat Anis
Problem nr: 11
Determine the dimensions of the shaft if it is made of steel C45 (kgo=80MPa, kgj=125MPa, kso=45MPa, ksj=85MPa).
The shaft transfers the torque T= 286Nm
Additional assumption: variable direction of rotation of gears. The shaft dimensions defined in the drawing are as follows:
l1=120mm; l2=80mm; l=400mm
The dimensions of the gears are as follows:
D1=200mm, D2=150mm
The force values are as follows:
Ft1=2860N; Fr1=1040N; Fw1=240N
Ft2=3813N; Fr2=1387N



Student: Belaid Yanis
Problem nr: 12
Determine the dimensions of the shaft if it is made of steel C35 (kgo=70MPa, kgj=110MPa, kso=40MPa, ksj=75MPa).
The shaft transfers the torque T= 214Nm
Additional assumption: variable direction of rotation of gears. The shaft dimensions defined in the drawing are as follows:
l1=126mm; l2=84mm; l=420mm
The dimensions of the gears are as follows:
D1=250mm, D2=150mm
The force values are as follows:
Ft1=1712N; Fr1=623N; Fw1=400N
Ft2=2853N; Fr2=1038N



Student: Labrach Alaa Lamisse M H
Problem nr: 13
Determine the dimensions of the shaft if it is made of steel C45 (kgo=80MPa, kgj=125MPa, kso=45MPa, ksj=85MPa).
The shaft transfers the torque T= 191Nm
Additional assumption: variable direction of rotation of gears. The shaft dimensions defined in the drawing are as follows:
l1=132mm; l2=88mm; l=440mm
The dimensions of the gears are as follows:
D1=300mm, D2=200mm
The force values are as follows:
Ft1=1273N; Fr1=463N; Fw1=300N
Ft2=1910N; Fr2=695N



Student: Kadid Abdelrrahim
Problem nr: 14
Determine the dimensions of the shaft if it is made of steel C25 (kgo=65MPa, kgj=100MPa, kso=35MPa, ksj=70MPa).
The shaft transfers the torque T= 159Nm
Additional assumption: constant rotation direction. The shaft dimensions defined in the drawing are as follows: l1=138mm; l2=92mm; l=460mm
The dimensions of the gears are as follows:
D1=350mm, D2=250mm
The force values are as follows:
Ft1=908N; Fr1=330N; Fw1=400N
Ft2=1272N; Fr2=462N