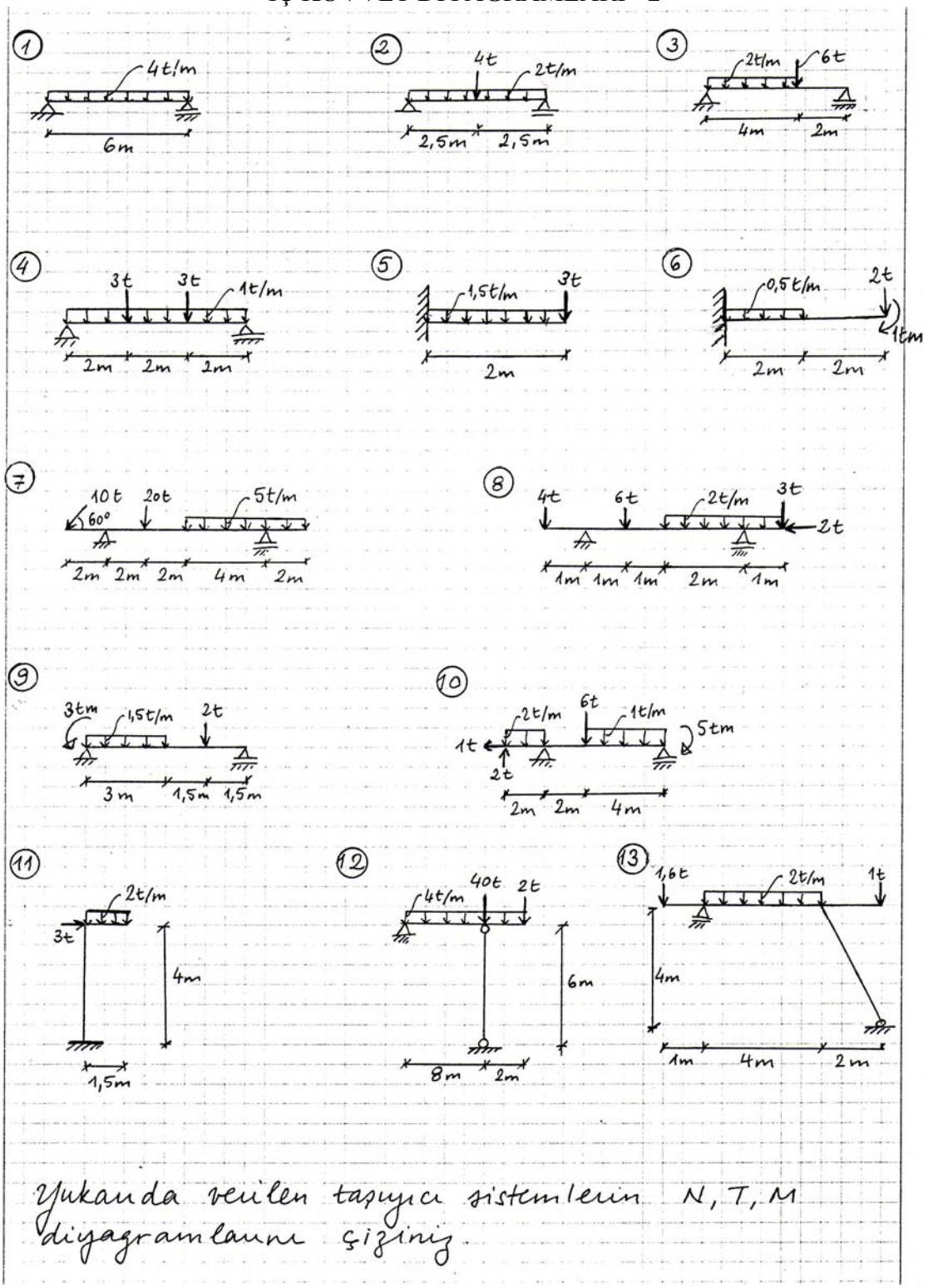
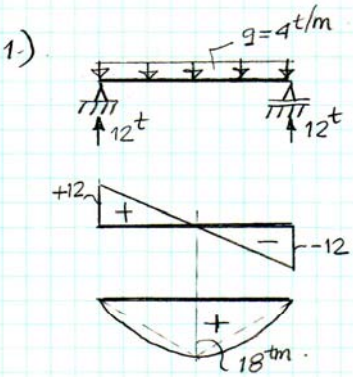
UYGULAMA 1
İÇ KUVVET DİYAGRAMLARI - 2



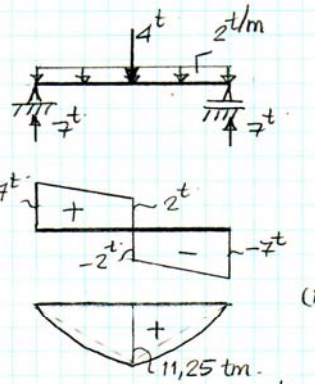
Yukarıda verilen taşıyıcı sistemlerin N, T, M diyagramlarını çiziniz.

MUKAVEMET UYGULAMA - 2 ÇÖZÜMLERİ

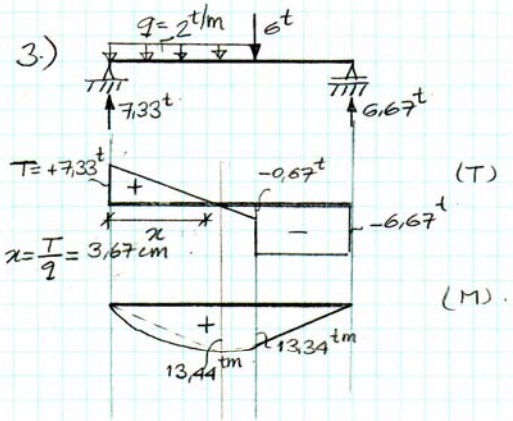
1.)



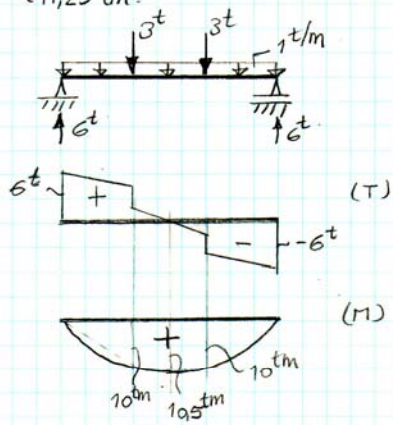
2.)



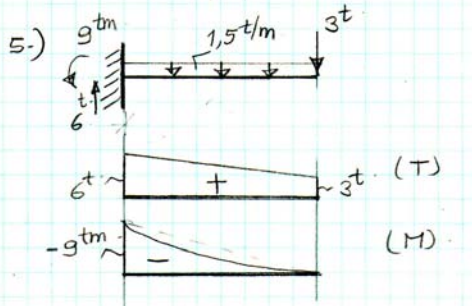
3.)



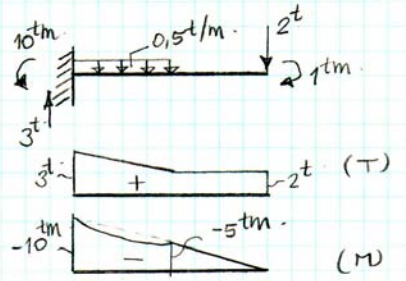
4.)



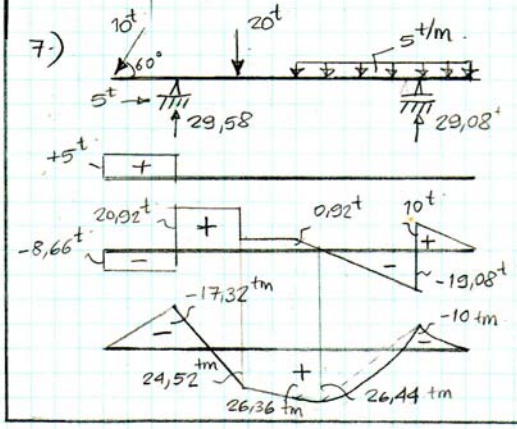
5.)



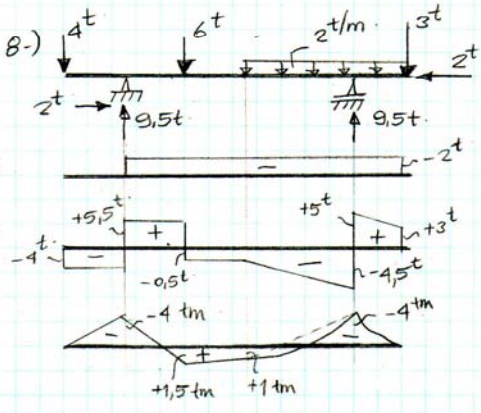
6.)



7.)

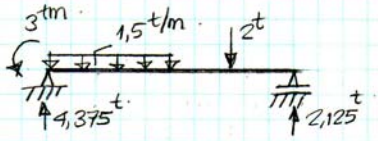


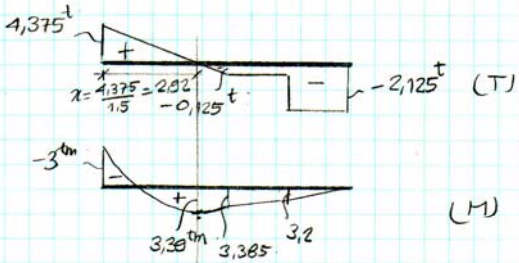
8.)



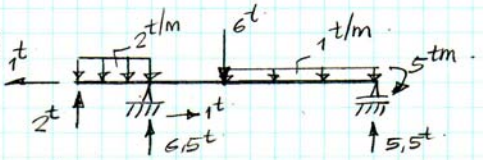
MUKAVEMET - UYGULAMA 2 ÇÖZÜMLERİ

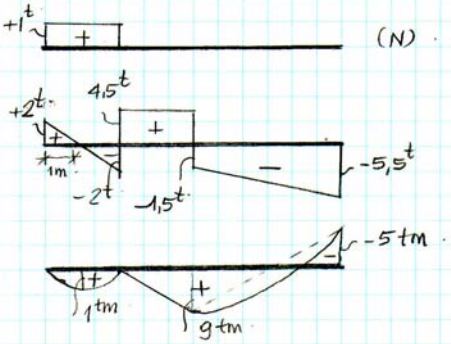
9.)



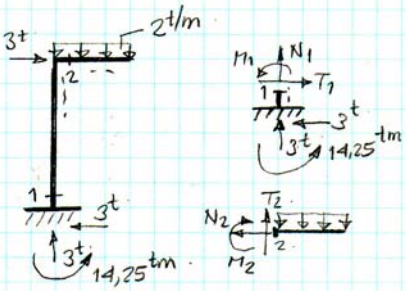


10.)



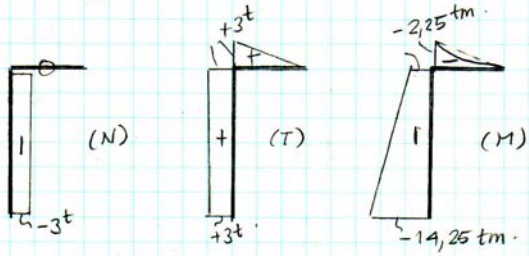


11.)

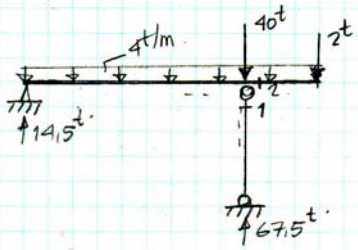


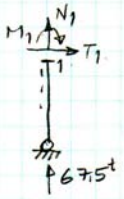
$\Sigma X=0 \rightarrow T_1=3\,t$
$\Sigma Y=0 \rightarrow N_1=-3\,t$
$\Sigma M_1=0 \rightarrow M_1+14,25=0 \rightarrow M_1=-14,25\ tm$

$\Sigma X=0 \rightarrow N_2=0$
$\Sigma Y=0 \rightarrow T_2=3\,t$
$\Sigma M_2=0 \rightarrow 3\cdot 0,75+M_2=0 \rightarrow M_2=-2,25\ tm$

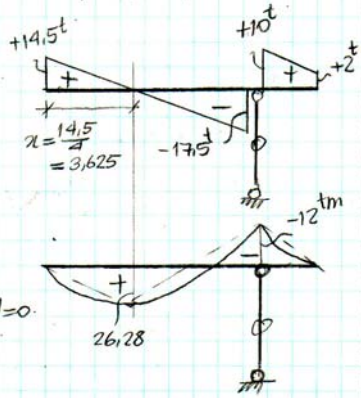


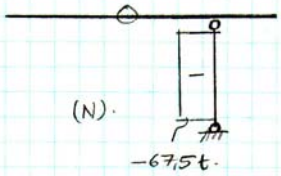
12.)

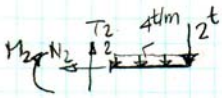




$\Sigma X=0 \rightarrow T_1=0$
$\Sigma Y=0 \rightarrow N_1=-67,5\ t$
$\Sigma M_1=0 \rightarrow M_1=0$



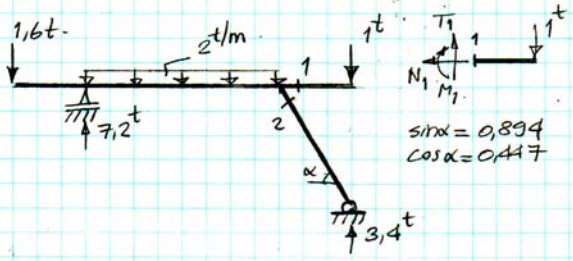




$\Sigma X=0 \rightarrow N_2=0$
$\Sigma Y=0 \rightarrow T_2=10\,t$
$\Sigma M_2=0 \rightarrow M_2+2,2+8\cdot 1=0$
$M_2=-12\ tm$

MUKAVEMET - UYGULAMA 2 ÇÖZÜMLERİ

13-)



$\Sigma X=0 \rightarrow N_1=0$

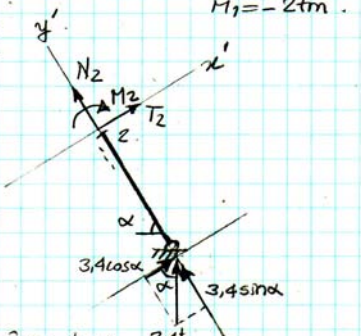
$\Sigma Y=0 \rightarrow T_1=1$

$\Sigma M_1=0 \rightarrow M_1+1\cdot 2=0$

$M_1=-2\,tm$

$\sin\alpha=0,894$

$\cos\alpha=0,447$

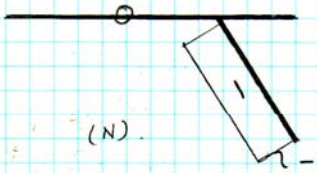


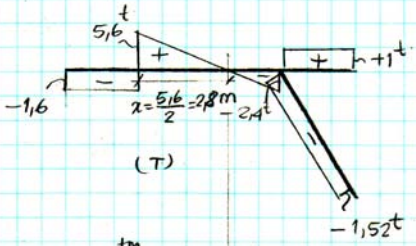
$\Sigma x'=0 \rightarrow T_2+3,4\cos\alpha=0 \rightarrow T_2=-1,52\,t$

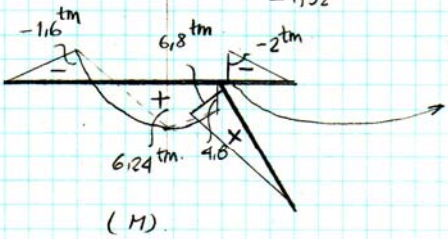
$\Sigma y'=0 \rightarrow N_2+3,4\sin\alpha=0 \rightarrow N_2=-3,04\,t$

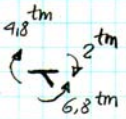
$\curvearrowright \Sigma M_2=0 \rightarrow 3,4\cdot 2-M_2=0 \rightarrow M_2=6,8\,tm$

N_2 ve T_2'yi bulmak için kuvvet yerine bileşenleri düşünürsek daha rahat hesap yapabiliriz.









Düğüm noktasındaki momentler dengede olmalıdır.

(M)