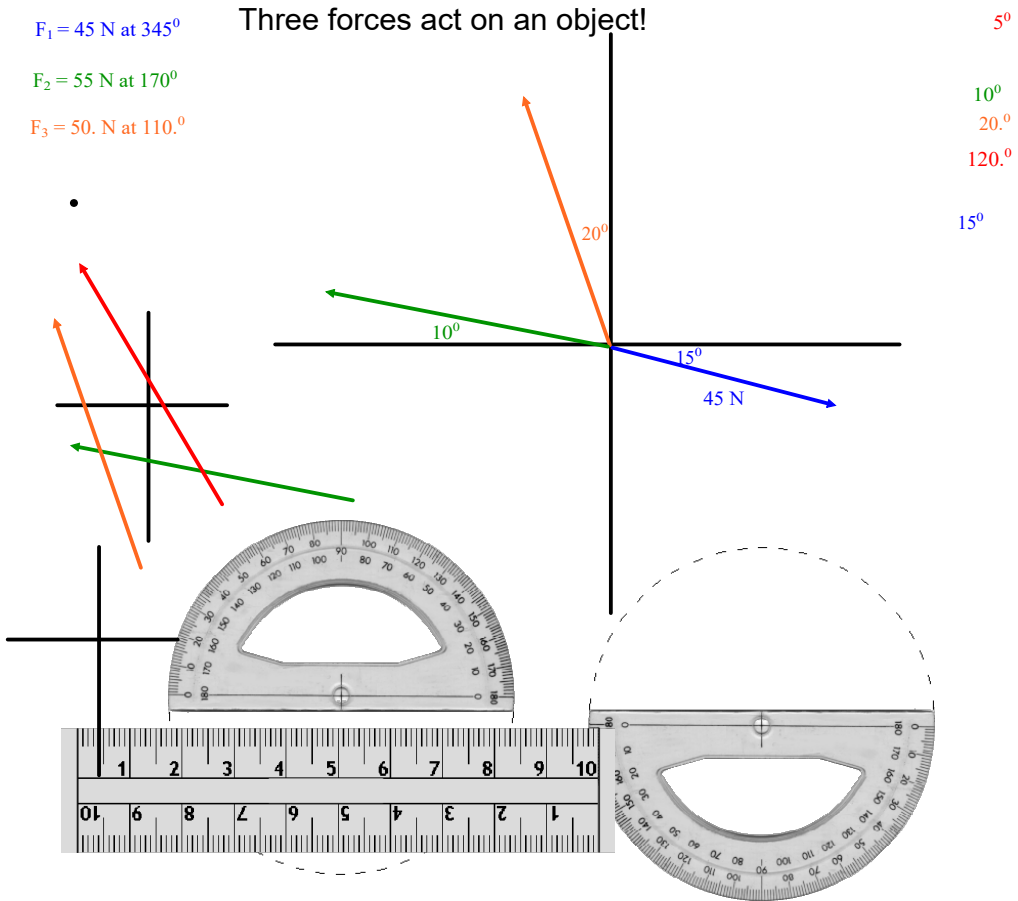


$F_1 = 45 \text{ N at } 345^\circ$

$F_2 = 55 \text{ N at } 170^\circ$

$F_3 = 50. \text{ N at } 110.^\circ$

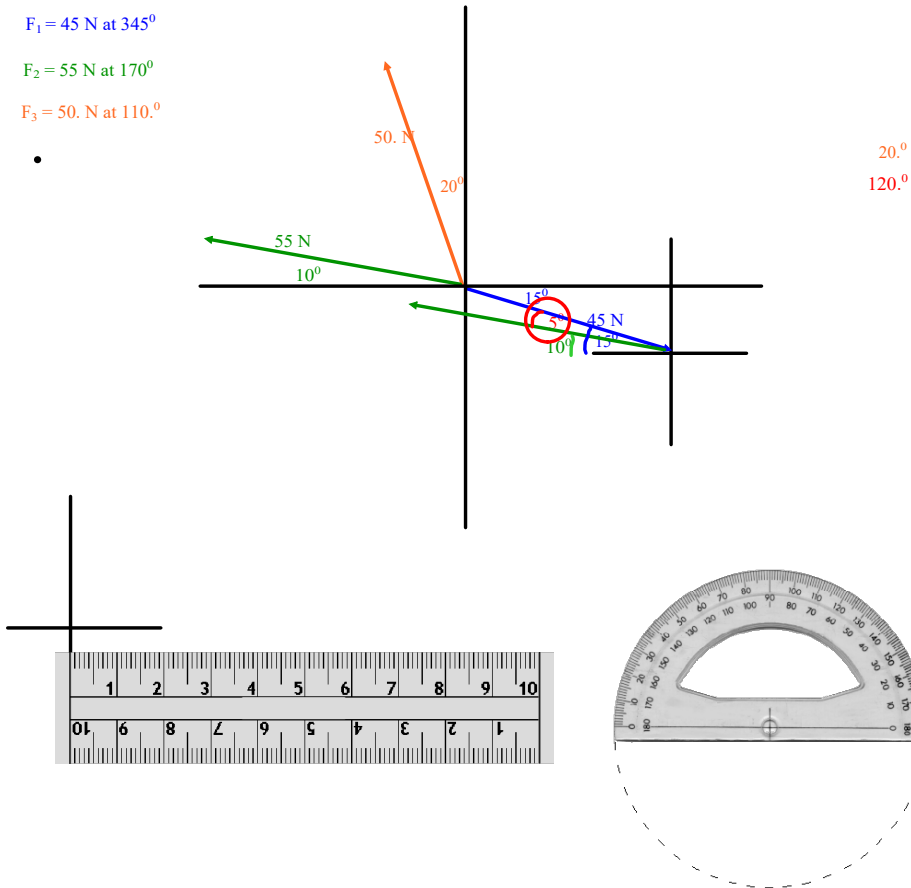
Three forces act on an object!

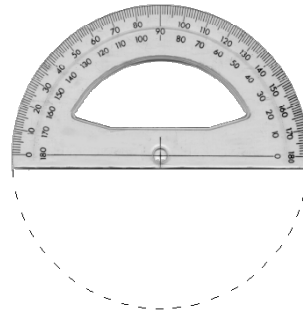
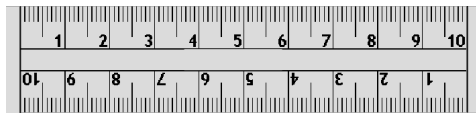
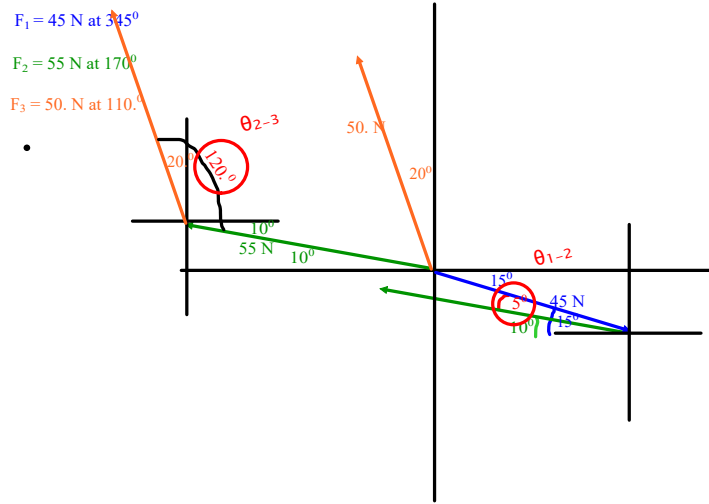


$F_1 = 45 \text{ N at } 345^\circ$

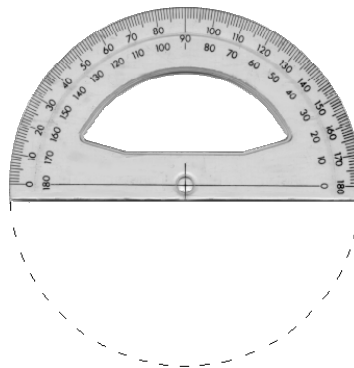
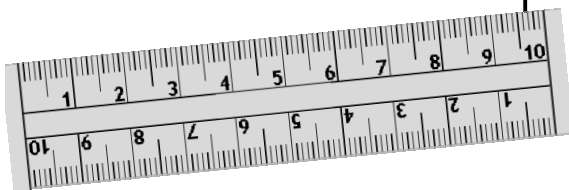
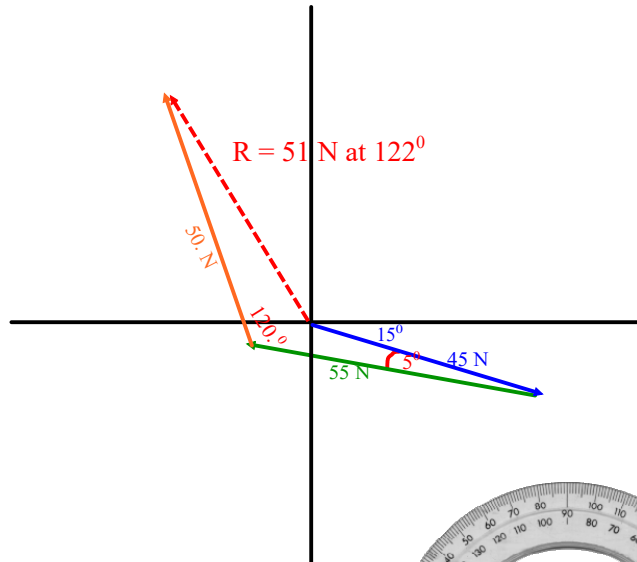
$F_2 = 55 \text{ N at } 170^\circ$

$F_3 = 50. \text{ N at } 110.^\circ$





$F_1 = 45 \text{ N at } 345^\circ$
 $F_2 = 55 \text{ N at } 170^\circ$
 $F_3 = 50 \text{ N at } 110^\circ$

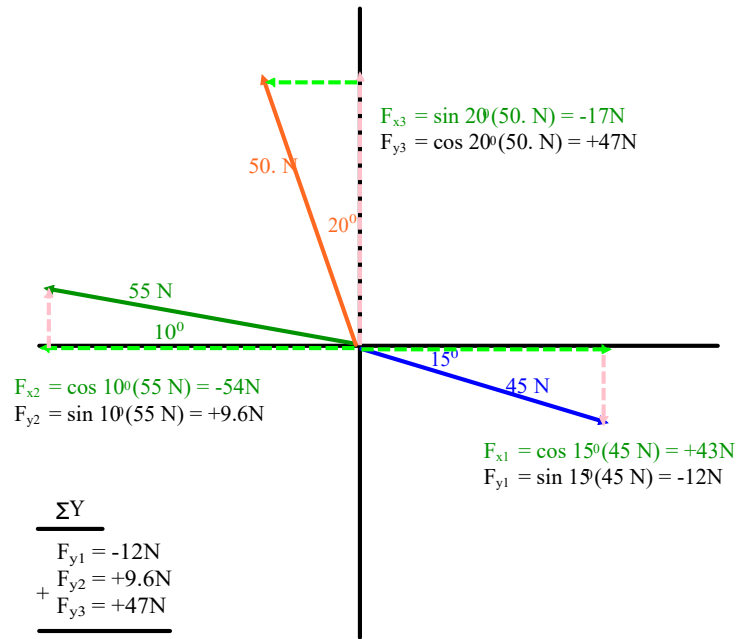


$F_1 = 45 \text{ N at } 345^\circ$

$F_2 = 55 \text{ N at } 170^\circ$

$F_3 = 50. \text{ N at } 110.^\circ$

+



$F_{x2} = \cos 10^\circ(55 \text{ N}) = -54\text{N}$
 $F_{y2} = \sin 10^\circ(55 \text{ N}) = +9.6\text{N}$

$F_{x3} = \sin 20^\circ(50. \text{ N}) = -17\text{N}$
 $F_{y3} = \cos 20^\circ(50. \text{ N}) = +47\text{N}$

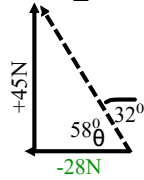
$F_{x1} = \cos 15^\circ(45 \text{ N}) = +43\text{N}$
 $F_{y1} = \sin 15^\circ(45 \text{ N}) = -12\text{N}$

ΣX
 $F_{x1} = +43\text{N}$
 $F_{x2} = -54\text{N}$
 $F_{x3} = -17\text{N}$

 $\Sigma X = -28\text{N}$

ΣY
 $F_{y1} = -12\text{N}$
 $F_{y2} = +9.6\text{N}$
 $+ F_{y3} = +47\text{N}$

 $\Sigma Y = +45\text{N}$



$R = \sqrt{(28\text{N})^2 + (45\text{N})^2}$

$R = 53\text{N at } 122^\circ$

$\tan \theta = 45\text{N}/28\text{N}$

$\theta = 58^\circ$

$32^\circ + 90^\circ = 122^\circ$
 or, $180^\circ - 58^\circ = 122^\circ$