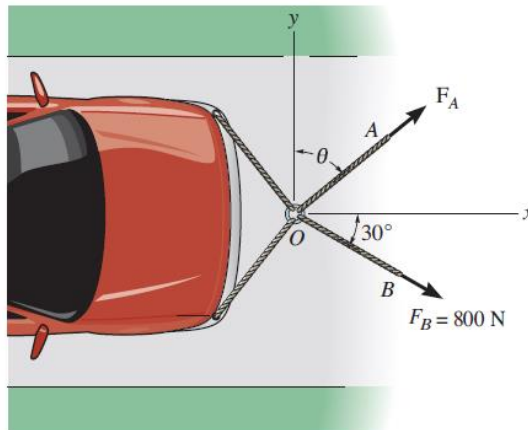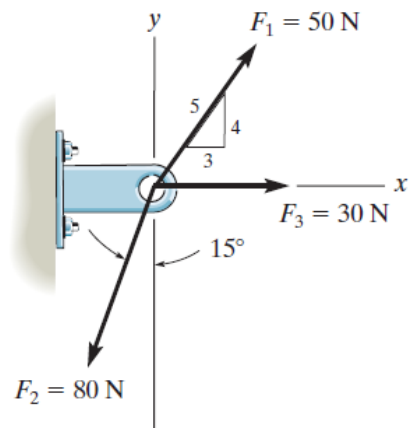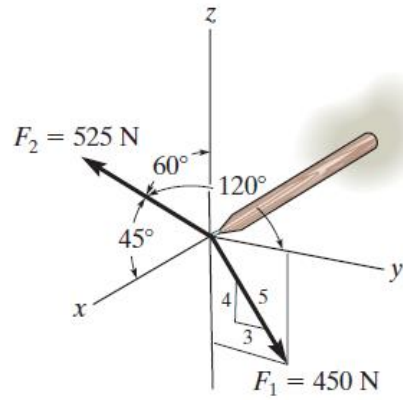1. Determine the magnitude and direction, measured counterclockwise from the positive x axis, of the resultant force acting on the ring at O, if $F_A = 750$ N and $\theta = 45°$.
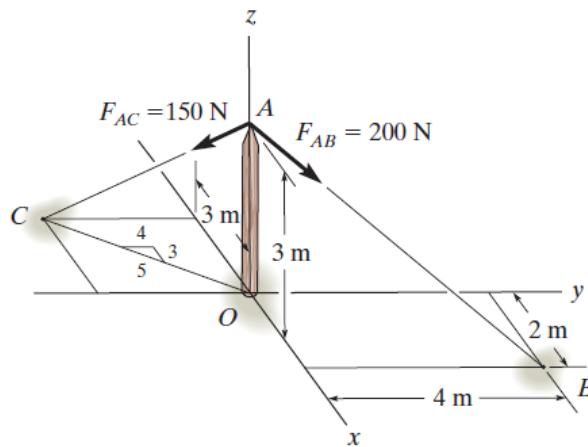

2. Express each of the three forces acting on the support in Cartesian vector form and determine the magnitude of the resultant force and its direction, measured clockwise from positive x axis.

3. Determine the magnitude and coordinate direction angles of the resultant force, and sketch this vector on the coordinate system.

$F_2 = 525$ N

$60°$

$120°$

$45°$

z

y

x

4

5

3

$F_1 = 450$ N

4. Determine the magnitude and coordinate direction angles of the resultant force acting at point A on the post.

$F_{AC} = 150$ N A

$F_{AB} = 200$ N

C

z

3 m

4

3

5

3 m

O

y

2 m

4 m

B

x

5. Determine the angle θ between the two cables.

z

C

$F_2 = 40$ N

4 m

θ $F_1 = 70$ N

A

2 m

3 m

B

y

2 m

3 m

3 m

x