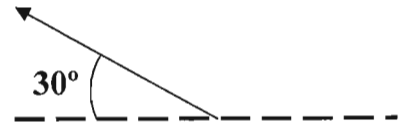1. Decompose (find the vertical and horizontal components) a force vector which has a magnitude of 450N and is directed at an angle of 30 degrees relative to the left horizontal (see figure at right).

30°

2. Find the magnitude and direction of the resultant force, given the vertical component of a force vector is 580N and the horizontal component is 200N.

3. Determine the force required through A (see figure below) for the system to remain in static equilibrium in the horizontally (i.e., not moving side to side). The forces at B and C are 40N and 90N, respectively.

C

37°

A

20°

B
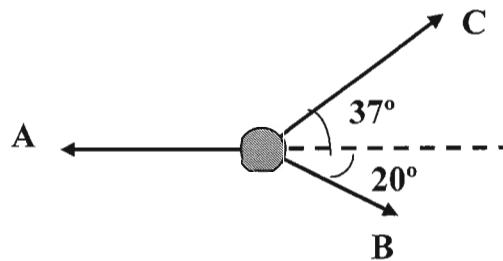
4. Find the horizontal (Fx) and vertical (Fy) components of a vector with magnitude 320N directed 110 degrees counter-clockwise from the right horizontal. Draw the vector and it's perpendicular components in the correct perspective.

5. Find the measure of angle θ and the length of C in the triangle below.

θ   25m/s

22°

C

A   B

50°   50°
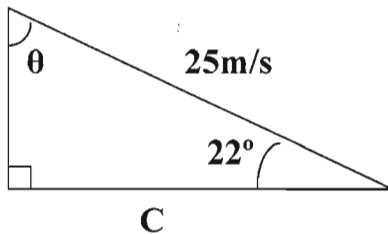
6. Determine the force required in A and B in the figure at right to hold steady the 100kg load pictured? Hint: The vertical components of A and B combined will hold the load.

100 kg