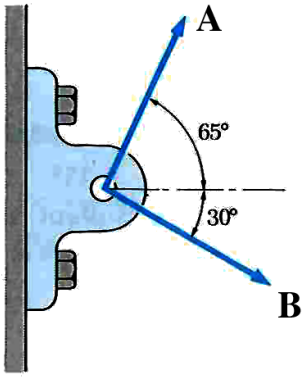


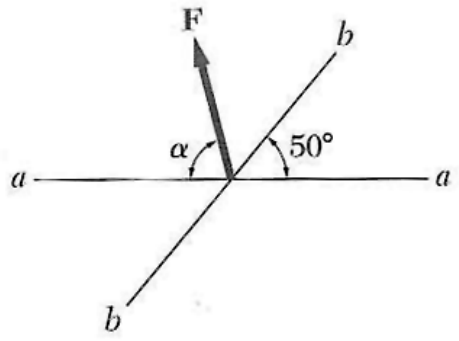
Example 1 Use the parallelogram rule to find the magnitude and direction of the resultant of the two forces shown. Given: A = 5 kN, B = 3.5 kN.

Find the exact answer using trig.

Procedure:

1. Draw scaled, labeled parallelogram.
2. Identify known quantities.
3. Use law of sines/cosines to solve for required values.
4. Supply answer and units

Example 2 The force **F** of magnitude 500 lb is to be resolved into two components along line *a-a* and *b-b*. Determine angle α, knowing that the component of **F** along line *a-a* is to be 400 lb.



Example 3 A stake is pulled out of the ground by means of two ropes as shown. (a) Knowing that $\alpha = 30°$, determine by trigonometry the magnitude of the force P so that the resultant force exerted on the stake is vertical. (b) What is the corresponding magnitude of the resultant?