

**PROBLEMS**

**2.14** A force of 2.5 kN is applied to a cable attached to the bracket. What are the horizontal and vertical components of this force?

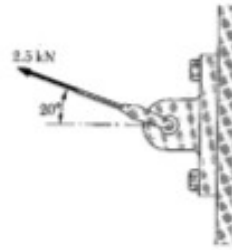


Fig. P2.14

**2.15** The hydraulic cylinder *GE* exerts on member *DF* a force *P* directed along line *GE*. Knowing that *P* must have a 600-N component perpendicular to member *DF*, determine the magnitude of *P* and of its component parallel to *DF*.

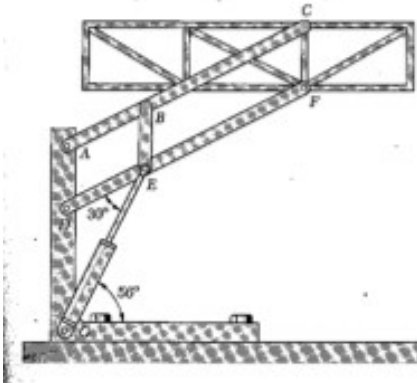


Fig. P2.15

**2.19** Determine the *x* and *y* components of each of the forces shown.

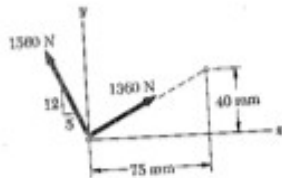


Fig. P2.19

**2.20 and 2.21** The *x* and *y* components of a force *F* are as shown. Determine the magnitude and direction of the force *F*.



Fig. P2.20



Fig. P2.21

**2.28** The directions of the 300-N forces may vary, but the angle between the forces is always 40°. Determine the value of *a* for which the resultant of the forces acting at *A* is directed parallel to the plane *b-b*.

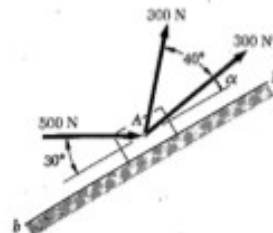


Fig. P2.28