Worksheet: Composition and Resolution   Name_____
        of Forces

1.   Concurrent forces are two or mores forces that act on the same
     _____ at the same _____.
2.   Concurrent forces can be treated as vector (components, resultants).
     Finding the resultant of these forces is called _____ of
     forces. Why is this a better term than addition of forces?

3.   When a parallelogram is constructed in order to combine forces, the
     resultant is the _____ of the parallelogram.
4.   What is the resultant of a pair of forces, 111 N north and 75 N south?
     _____
     What is their resultant if they both act north? _____
5.   The state of a body in which there is no change in its motion is called
     _____
6.   When no unbalanced forces act on an object, the object can have no
     _____.
7.   What is the net force that acts on an object in equilibrium? _____
8.   A(n) _____ force is the force required to put an
     object in a state of equilibrium. This force has the same
     _____ but opposite _____ to the
     resultant of the concurrent forces acting on the object.
9.   A resultant vector can be _____ into its components using
     either graphic or trigonometric methods. Usually the two components are in
     _____ and _____ directions.
10. a)   One force acts westward on an object with a magnitude of 24.0 N; the
          other force acts southward with a magnitude of 18.0 N. Compose these
          two concurrent forces into their resultant. (Remember to give
          magnitude and direction!)

     b)   What would be the magnitude and direction of an equilibrant force for
          this situation?
          _____, _____
     c)   As long as the forces in a) act on the object, it will (move uniformly,
          accelerate). As soon as the force in b) is applied, the object will
          (stop, slow down, move uniformly).

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Draw diagrams for all questions.

11.   a) What is the resultant of these forces acting on the same object?
              6.0 N, West; 1.2 N, East; and 7.2 N, North
      b) What is the equilibrant force for this situation?

12.   Find the magnitude and direction of the **equilibrant** force for these two
      concurrent forces:
      13.5 N, E and 32.0 N, N.

13.   A person pulls a rake with 152 N of force along the handle. The angle
      between the handle and the ground is 35.0°. Determine the magnitudes of
      the horizontal and vertical components of this force.

14.   A child pulls a wagon along level ground. The handle with which she pulls the
      wagon makes an angle of 20.0° with the ground as the child pulls with a force
      of 78.0 N. What are the components of the force?