Present neatly. Justify for full credit. ~~No Calculators~~.

Name _____   Score _____ 15 minutes / A x 2

1) Karen and Oscar start from the same point. Karen walks east at 3 mi/h and Oscar walks northeast at 2 mi/h. How fast is the distance between them changing after 15 minutes?

2) Amy sprints around a circular track of radius 100 m at a constant speed of 7 m/s. Vicky is standing at a distance 200 m from the center of the track. How fast is the distance between Amy and Vicky changing when the distance between them is 200 m?

Present neatly. Justify for full credit. ~~No Calculators~~.

Name _____   Score _____ 15 minutes / F x 2

1) The minute hand on a watch is 8 mm long and the hour hand is 4 mm long. How fast is the distance between the tips of the hands changing at one o'clock?

2) A lighthouse is located on a small island 3 km away from the nearest point P on a straight shoreline and its light makes four revolutions per minute. How fast is the beam of light moving along the shoreline when it is 1 km from P?