## Practice Problem Set 7: Engineering Mechanics (NMEC101) <u>Answers</u>

1. 
$$Q = 4Psin\frac{\theta}{2}$$

**2.** 
$$Q = 3P \tan\theta$$

$$3. y = 0.453 m$$

**4.** 
$$\theta = 31.63^{\circ}$$
 and the equilibrium is stable

**5.** 
$$\theta = 31.63^{\circ}$$
 (stable equilibrium) and  $\theta = 77.08^{\circ}$  (unstable equilibrium)