1. Exercise 6.3
2. Exercise 6.5
3. **Firm profit maximization** A standard firm's profits are given by:

$$\Pi = p \cdot f(eH) - w \cdot H \tag{1}$$

$$N = eH$$

The workers effort is given by:

$$e = E(w) \tag{2}$$

Where e is effort; w is the hourly wage; p is the price charge by product; $f(eH)$ is the production function; H are the employed hours; N are the productive hours; and $E(w)$ is the employees' best response function.

   (a) Get the optimallity condition:

$$E'(w) = \frac{E(w)}{w}$$

   (b) Suppose $E(w) = ln(w)$. Show it fulfills the best response curve characteristics.

   (c) Obtain the wage and effort level at equilibrium.

4. **The multiplier model**. Imagine there are several Aggregate Demands functions. For each of the following AD cases represent the goods market equilibrium and obtain the respective multiplier. For efficiency, graph the different AD functions of this excercise in one single graph. *Hint*: Take into account what parameters change the slope of the AD line, and what variables shift it upwards and downwards.

   (a) AD^1. Economy with no investment, government, nor trade with other countries. The consumption function is the following:

$$C = c_0 + c_1 \cdot Y \tag{3}$$

$$c_0 > 0, \qquad 0 < c_1 < 1$$

   (b) AD^2. Economy with consumption and investment. Consumption is given by Equation 3 and the investment is given by:

$$I = I(r) \tag{4}$$

$$I'(r) < 0$$

   (c) AD^3. Economy with consumption, investment, and government. The government finance itself with a tax on income as expressed in the following equation:

$$G \geq T = tY \tag{5}$$

   (d) AD^4. Economy with consumption, investment, government and trade. Exports are given by Equation 6, and imports by Equation 7

$$X = X \tag{6}$$

$$I = mY \tag{7}$$

$$0 < m < 1$$

5. Exercise 14.3
6. Exercise 15.9