Exam 3 calculation answers

- 9. rate of return =
$$\frac{11,690}{167,000} = 0.0700$$

  The investment is profitable since the rate of return is greater than the interest rate (0.06).

- 10. If everyone knows about this opportunity, then the rate of return will adjust until it equals the interest rate. The price of the initial investment will become

$$\frac{11,690}{0.06} = 194,833.33$$

- 11.

L	Q	MP		MRP
0	0			
		18	$	270
1	18			
		20	$	300
2	38			
		24	$	360
3	62			
		20	$	300
4	82			
		18	$	270
5	100			
		16	$	240
6	116			
		14	$	210
7	130			

L=Labor quantity; Q=Quantity of the output product MP=Marginal Product; MRP=Marginal Revenue Product

Value of the marginal product (VMP) is the same as marginal revenue product (MRP). The rule is: if the value of the marginal product (marginal revenue product) is greater than the wage, then hire more workers. The optimum occurs when the value of the marginal product equals the wage. This means that the downward-sloping part of the value of the marginal revenue product curve is the labor demand curve for this individual firm.