Homework #5

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1. Sundaram, #1, p.142

2. Sundaram, #2, p.142

3. If x thousand dollars is spent on labor and y thousand dollars is spent on equipment, a certain factory produces $Q(x, y) = 50\ x^{\frac{1}{2}} y^{\frac{1}{2}}$ units of output.

   (a) How should \$80,000 be allocated between labor and equipment to yield the largest possible output?

   (b) Use the Envelope Theorem to estimate the change in maximum output if this allocation decreased by \$1000.

   (c) Compute the exact change in b).