

Problem set 1 essays examples

[Literature](#), [Russian Literature](#)



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Question 1

- The percentage in change in productivity would be $25\% - 14\% = 11\%$
- If 2 machines can produce the parts at 10%, for instance, three machines would increase the products to 40%. Therefore, the percentage change in productivity in this case would be $(3-2) = 1 \cdot 33\% = 33\%$. The increase in one machine would therefore imply a 33% increase in productivity.

Question 2

The overall productivity required in this case is $(43\%+20\%)/2 = 23\%/2 = 11.5\%$. the overall change therefore is 11.5%

Question 3

- The relative wage rate for the Filipino employees that are twice as productive as the British employees is $125 \cdot 2 = 250 \text{Php/hr}$. therefore if 75.18 = 1 British Pound; $250 \text{Php} = (250 \cdot 1)/75.18 = 3.325 \text{£}$. the relative wage rate for the Filipino employees would be 3.325£/hr. Based on the relative wage rates, the operations should be located in Philippines
- Assuming the Filipino facility can produce 150 units per hour, it therefore

implies that the UK facility can produce half, which is 75 units per hour.

Therefore, in order to make the relative wage rate in the Philippines greater than or equal to the wage rate in the UK (13£), the latter company requires a production of about $(75 \times 4) = 300$ units per hour or more. This implies that the UK employees need to produce double the Filipino employees

Question 4

- The total reliabilities is 3.68. Reliability cost for (a) is $(1300 \times 0.9) / 3.68 = \317.9347 (b) is $(1300 \times 0.92) / 3.68 = \325 , (c) is $(1300 \times 0.87) / 3.68 = \307.3369 , and (d) is $(1300 \times 0.99) / 3.68 = 349.7282$

- Could not answer this question

I would recommend the improvement three since it reduces the risk of failure