

Returns to Scale

LLE Mathematics and Statistics

For each of the following production functions, identify the returns to scale.

1. $Q(K, L) = 3K + 2L$

2. $Q(K, L) = 0.2KL$

3. $Q(K, L) = \frac{KL}{2}$

4. $Q(K, L) = K^2L^2$

5. $Q(K, L) = K^{0.5}L^{0.5}$

6. $Q(K, L) = K^{0.9}L^{0.1}$

7. $Q(K, L) = K^{0.2}L^{0.6}$

8. $Q(K, L) = K^{0.8}L^{0.3}$

9. $Q(K, L) = K^\alpha L^\beta$ where

(a) $\alpha + \beta = 1$

(b) $\alpha + \beta < 1$

(c) $\alpha + \beta > 1$