

EG02021 Mathematics

Feedback Quiz 4: Differentiation and Application

Total Points 10

Name:

ID:

1. Water lily grows circular lily pads with diameters up to $7ft$. Suppose the radius ' r ' of a lily pad is growing at the rate of $0.8ft$ per month at the moment and the radius is $3ft$. At that moment, how fast is the area of the lily pad increasing?

2. Trees annually produce approximately $1800g$ of organic matter for every square meter. Suppose that the productivity P (organic matter for every square meter) of a forest is currently $1800g/m^2$ and that the forest currently covers an area A of $100,000,000 m^2$. Let the forest is losing $1,000,000 m^2$ each year, but the productivity is increasing by $1.7g/(m^2-yr)$. What is the rate of change of the quantity of organic matter produced by the trees of the forest?

