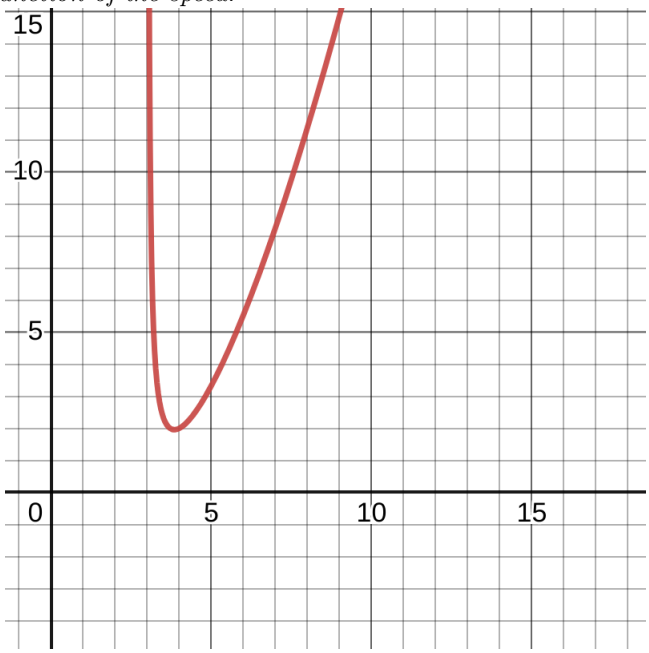
## 3.5 Graphical Differentiation

Recall that derivative is the (instantaneous) rate of change. Derivative is also the slope of the tangent line, or the slope of the graph. Thus we may sketch the graph of derivative by looking at the graph of a function. In many situations all we have is a graph obtained from data and there is no formula. So this skill of drawing derivative from function is quite important in applied calculus.

**Example 1.** *The graph below shows the relationship between the speed of a bird in flight (m/sec) and the required power (watt/kg) expended by flight muscles. Sketch the graph of the rate of change of the power as a function of the speed.*




**Homework**

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