

Name: \_\_\_\_\_  
Group Members Present: \_\_\_\_\_

Grade: \_\_\_\_\_

\_\_\_\_\_, \_\_\_\_\_, & \_\_\_\_\_

1. Retail prices for electricity in the commercial sector in 2009 are shown in the figure.

a. Over what intervals is the graph concave up?

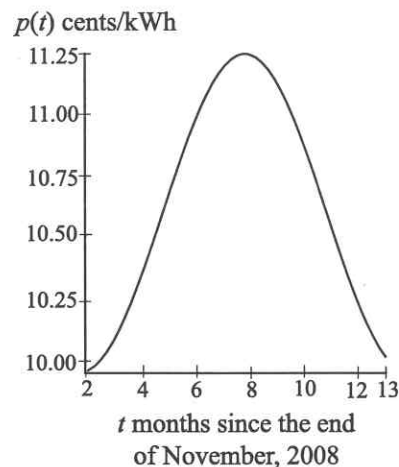
\_\_\_\_\_

b. Over what interval is the graph concave down?

\_\_\_\_\_

c. At what input values do the inflection points occur?

\_\_\_\_\_



2. The capacity for wind power worldwide can be modeled as

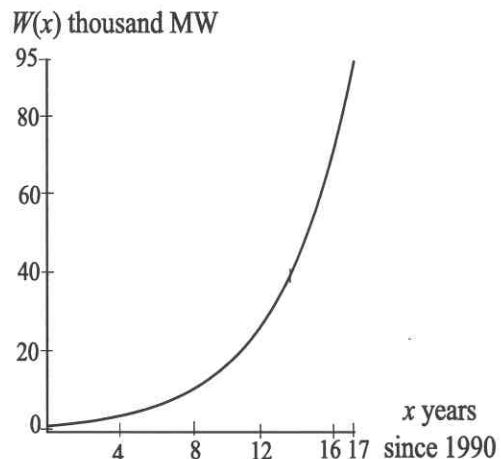
$$W(x) = 1.608(1.271^x) \text{ thousand MW}$$

where  $x$  is the number of years since 1990, data from  $0 \leq x \leq 17$ . A figure of this function is shown.

a. Identify the direction and concavity of the graph.

direction: \_\_\_\_\_

concavity: \_\_\_\_\_



- b. Considering the function out of context, numerically estimate the end behavior of the function in both directions.

$x \rightarrow -\infty$	$W(x)$
-10	
-100	

$$\lim_{x \rightarrow -\infty} W(x) \approx$$

\_\_\_\_\_

$x \rightarrow \infty$	$W(x)$
40	
160	

$$\lim_{x \rightarrow \infty} W(x) \approx$$

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