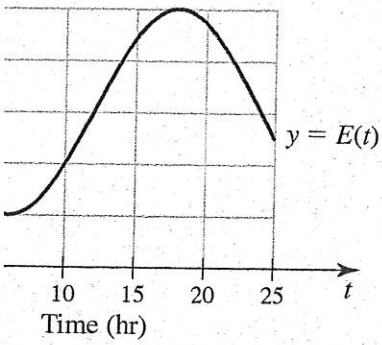
Math 171 Section 3.2, page 150, number 47

rgy is the capacity to do work, and power is
is used or consumed. Therefore, if $E(t)$ is the
stem, then $P(t) = E'(t)$ is the power func-
the kilowatt-hour (1 kWh is the amount of
en 100-W light bulbs for an hour); the corre-
r are kilowatts. The following figure shows the
for a small community over a 25-hour period.

at $t = 10$ and $t = 20$ hr. Be sure to include
ation.
ie interval $[0, 25]$ is the power zero?
ie interval $[0, 25]$ is the power a maximum?



r the line $f(x) = mx + b$, where m and b
t $f'(x) = m$ for all x. Interpret this result.

the derivative to determine

where a, b, and c are constants.

$x + 10$ and use part (a) to find $f'(x)$.
$f'(1)$.

the derivative to determine

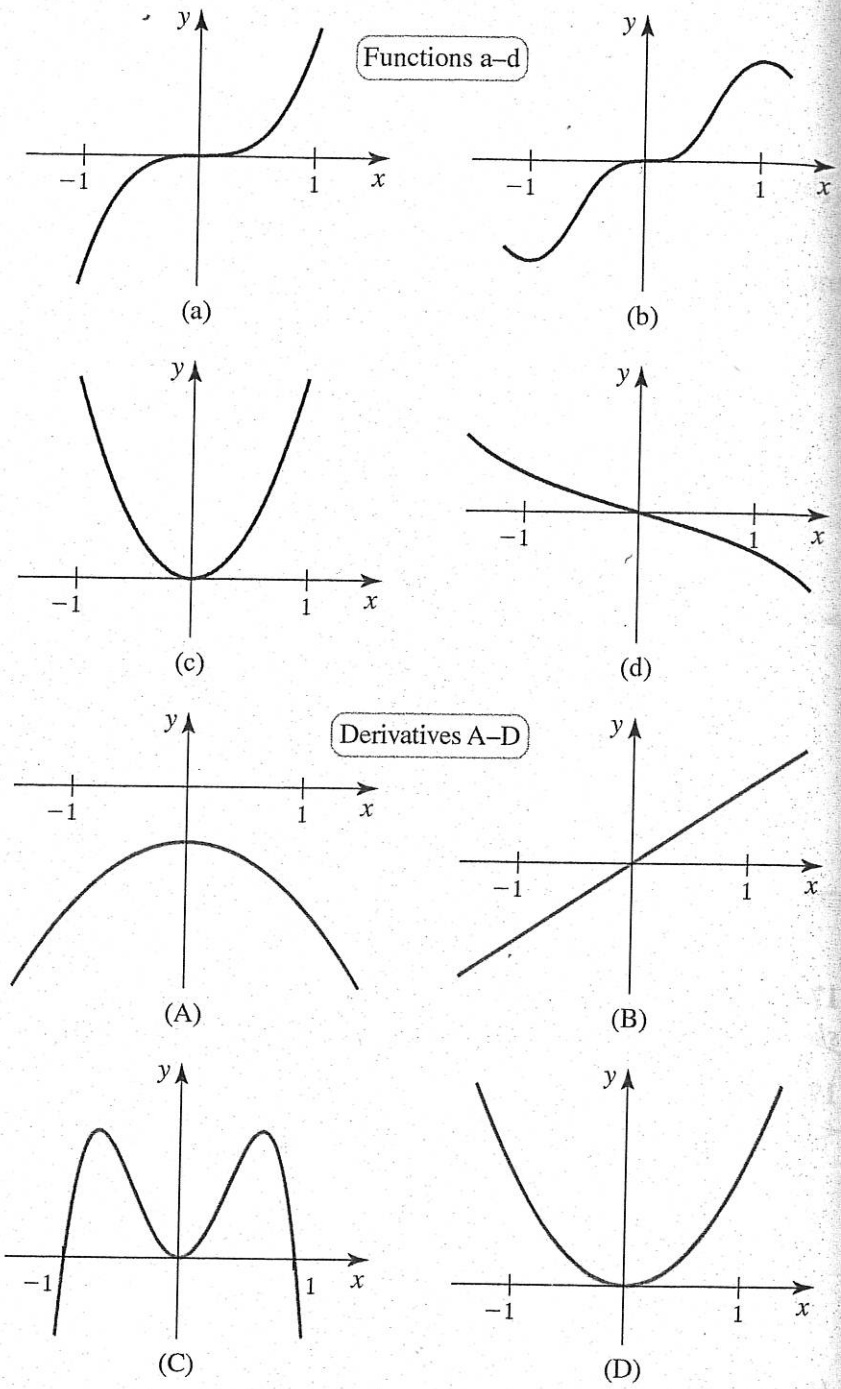
re a and b are constants.

$\overline{9}$ and use part (a) to find $f'(x)$.
$'(-1)$.

*the points A, B, C, D, and E in the fol-
e questions.*

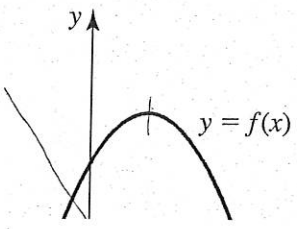
ie of the curve negative?
ie of the curve positive?
in decreasing order.

47. Matching functions with derivatives Match the functions a–d in the first set of figures with the derivative functions A–D in the next set of figures.



48–52. Sketching derivatives *Reproduce the graph of f and then plot a graph of f′ on the same axes.*

48.



49.