1) The table gives values of the function f and g at selected values of x.
   The function h is given by $h(x) = f(g(x)) - 6$
   a. Find the average rate of change of f over the interval $1 \le x \le 4$.

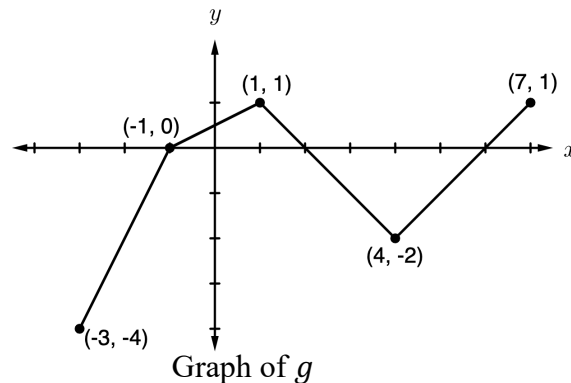| x	$f(x)$	$g(x)$
1	6	2
2	9	3
3	10	4
4	−1	6

   b. Find the average rate of change of g over the interval $1 \le x \le 3$.

   c. Find the average rate of change of h over the interval $2 \le x \le 3$.

2)

(1, 1)   (7, 1)
(-1, 0)
(4, -2)
(-3, -4)
Graph of g

The graph of the continuous piecewise-linear function g, is shown above for $-3 \le x \le 7$.
   a. Sketch the line representing the average rate of change of g over the entire time interval.

   b. Find the average rate of change of $g(x)$ on the interval $-3 \le x \le 7$.

3)

t (hours)	0	1	3	4	7	8	9
$L(t)$ (people)	120	156	176	126	150	80	0

Concert tickets went on sale at noon ($t = 0$) and were sold out within 9 hours. The number of people waiting in line to purchase tickets at time t is modeled by a function L for $0 \le t \le 9$. Values of $L(t)$ at various times t are shown in the table above.

Find the average rate of change of L over the time interval $4 \le t \le 7$. Indicate units of measure.
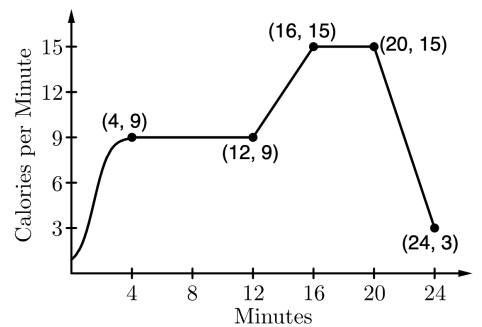
4)

Distance x (cm)	0	1	5	6	8
Temperature $T(x)$ (°C)	100	93	70	62	55

A metal wire of length 8 centimeters (cm) is heated at one end. The table above gives selected values of the temperature $T(x)$, in degrees Celsius (°C), of the wire x cm from the heated end.

Find the average rate of change of the temperature of the wire over the time interval $0 \leq x \leq 5$. Indicate units.

5)

The rate, in calories per minute, at which a person using an exercise machine burns calories is modeled by the function f. In the figure above, $f(t) = -\frac{1}{4}t^3 + \frac{3}{2}t^2 + 1$ for $0 \leq t \leq 4$ and f is piecewise linear for $4 \leq t \leq 24$.

   a.   Sketch the line representing the average rate of change of f over the time interval $4 \leq t \leq 24$.

   b.   Find the average rate of change of f over the time interval $4 \leq t \leq 24$. Indicate units of measure.

6)
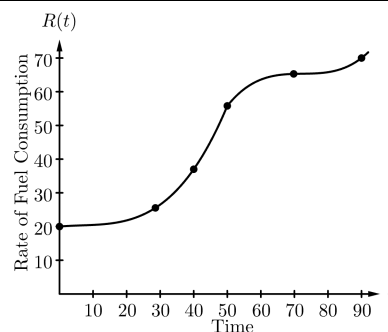
The rate of fuel consumption, in gallons per minute, recorded during an airplane flight is given by a function R of time t. The graph of R for the first time interval $0 \leq t \leq 90$ minutes, is shown above.

   a.   Sketch the line representing the average rate of change of R over the time interval $0 \leq t \leq 90$.

   b.   Find the average rate of change of R over the time intervsal $0 \leq t \leq 90$. Indicate units of measure