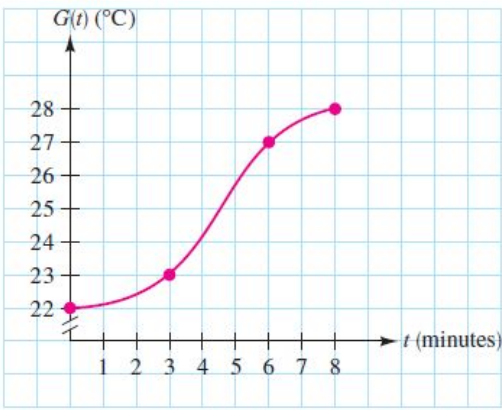
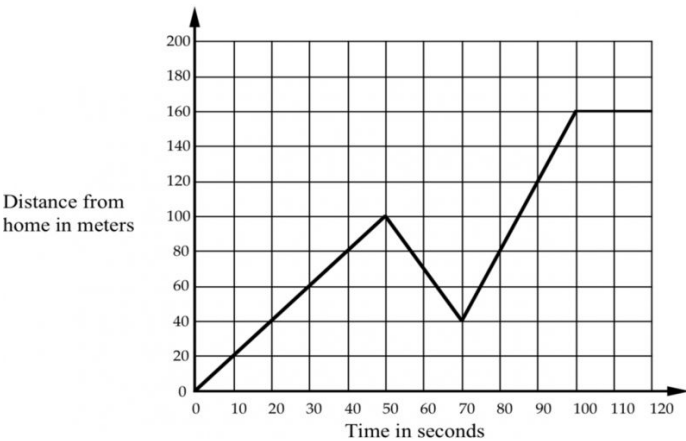
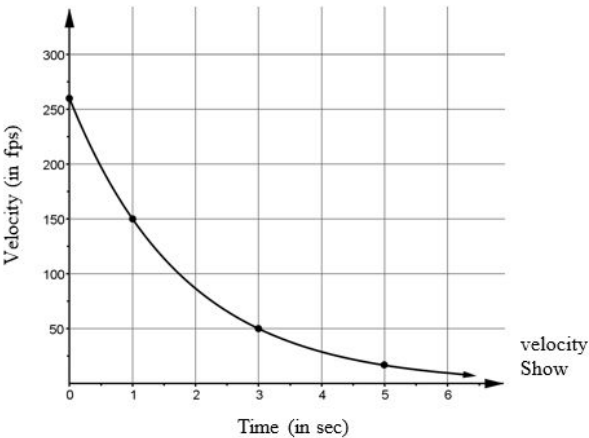


Math 1050 A2.4 Average Rate of Change	Name
<p>1. Find the average rate of change from 3 to 8 minutes.</p>  <p>What does it represent?</p>	<p>2. Find the average rate of change from 40 to 90 seconds</p>  <p>What does it represent?</p>
<p>3. Find the average rate of change from 1 to 3 seconds.</p>  <p>What does it represent?</p>	<p>4. Find the average rate of change between $x = 1$ and $x = 5$. $g(x) = 5 + \frac{x}{2}$</p>
<p>5. Find the average rate of change between $z = -2$ and $z = 0$. $g(x) = 1 - 3z^2$</p>	<p>6. Find the average rate of change between $x = 0$ and $x = 10$. $f(x) = x^3 - 4x^2$</p>
<p>7. Find the average rate of change between $x = 2$ and $x = 2 + h$. $g(x) = 3x^2$</p>	<p>8. Find the average rate of change between $x = 1$ and $x = 1 + h$. $f(x) = 4 - x^2$</p>

9. Find the average rate of change between $x = 1$ and $x = a$.

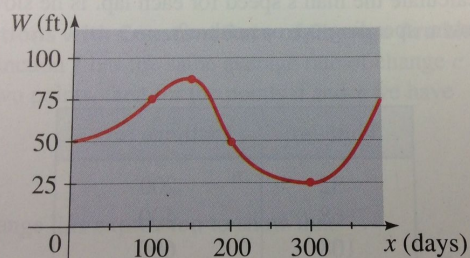
$$g(x) = \frac{1}{x}$$

10. Find the average rate of change between $x = 0$ and $x = h$.

$$g(x) = \frac{2}{x+1}$$

11. Changing water levels

Changing Water Levels The graph shows the depth of water W in a reservoir over a one-year period as a function of the number of days x since the beginning of the year. What was the average rate of change of W between $x = 100$ and $x = 200$?



Population Growth and Decline The table gives the population in a small coastal community for the period 1997–2006. Figures shown are for January 1 in each year.

- What was the average rate of change of population between 1998 and 2001?
- What was the average rate of change of population between 2002 and 2004?
- For what period of time was the population increasing?
- For what period of time was the population decreasing?

Year	Population
1997	624
1998	856
1999	1,336
2000	1,578
2001	1,591
2002	1,483
2003	994
2004	826
2005	801
2006	745

12.

13.

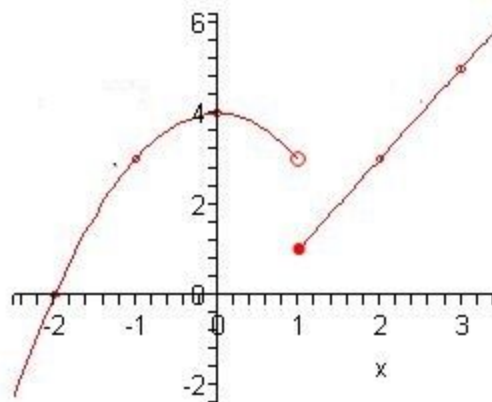
Running Speed A man is running around a circular track that is 200 m in circumference. An observer uses a stopwatch to record the runner's time at the end of each lap, obtaining the data in the following table.

- What was the man's average speed (rate) between 68 s and 152 s?
- What was the man's average speed between 263 s and 412 s?
- Calculate the man's speed for each lap. Is he slowing down, speeding up, or neither?

Time (s)	Distance (m)
32	200
68	400
108	600
152	800
203	1000
263	1200
335	1400
412	1600

14.

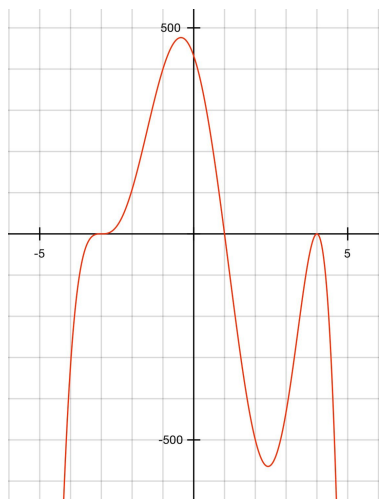
Equation of the piecewise:



_____, when x _____

_____, when x _____

15.



Is the above graph a function? Yes/No

Is the above graph one-to-one? Yes/No

What is $f(-2)$?

What x values is $f(x) = -300$?

What is the Domain?

What is the Range?

Interval(s) of Increasing?

Interval(s) of Decreasing?

Local Maximum(s)=

Local Minimum(s)=

17. Find the Domain:

$$f(x) = \sqrt{x^2 - 2x - 8}$$

16. Evaluate the function at the given values.

$$g(x) = \frac{1-x}{1+x}$$

$$g(2) =$$

$$g(-1) =$$

$$g\left(\frac{1}{2}\right) =$$

$$g(a) =$$

$$g(a-1) =$$

$$g(x^2 - 1) =$$

18. Graph the function by making a T-table.

$$f(x) = -x^2 + 2x + 3$$

