Chapter 2, Test Form C **Name:**

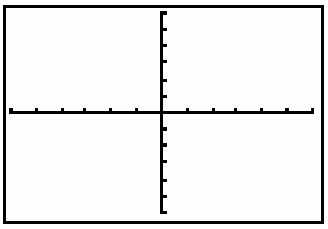
1. For the years 1890 to 1960, the median age for a man's first marriage can be modeled by $f(x) = -0.0492x + 119.1$, where x is the year. Find the median age in 1930. Round answer to the nearest year.

1. _____

2. The median price of a single-family home during the years 1990 to 2000 can be approximated by $P(x) = 5421x + 89{,}000$, where $x = 0$ corresponds to the year 1990 and $x = 10$ corresponds to the year 2000. Find the median price of a single-family home in 1998.

2. _____

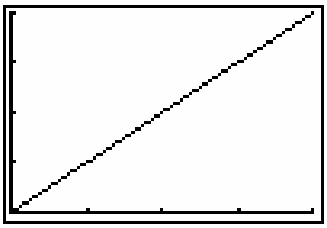
3. Use your graphing calculator to graph $f(x) = -3x + 5$.

3. 

$[-6, 6, 1]$ by $[-6, 6, 1]$

4. Susan begins driving along a country road at a rate of 40 mph. The graph illustrates the distance from her place of origin after *t* hours. How far has Susan traveled after 3 hours?

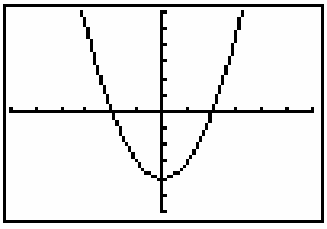
4. _____



$[0, 4, 1]$ by $[0, 160, 40]$

5. Determine the domain and range of f.

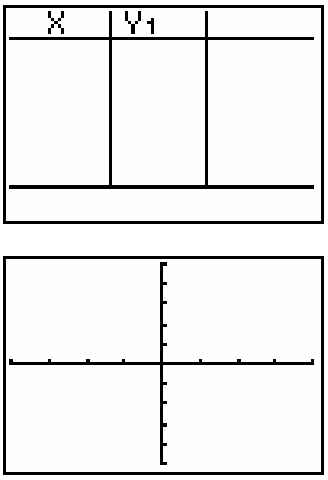
5. _____



$[-6, 6, 1]$ by $[-6, 6, 1]$

6. A function f is represented verbally by "Square the input x and then subtract 4." Give symbolic, numerical and graphical representations of f. Let $x = -3, -2, -1, ..., 3$ in the numerical representation (table) and let $-4 \le x \le 4$ for the graph.

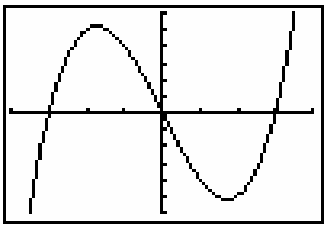
6. _____



$[-4, 4, 1]$ by $[-5, 5, 1]$

7. Determine whether the graph represents a function.

7. _____



$[-4, 4, 1]$ by $[-6, 6, 1]$

8. Find the domain of $f(x) = |x - 2.5|$.

8. _____

9. The monthly cost of operating a car can be modeled by the linear function $C(x) = 0.39x + 395$, where x represents the number of miles driven.
   (a) Find the slope of the graph of the function. What does the slope represent?
   (b) Find the *y*-intercept of the graph of the function. What does the *y*-intercept represent?

9. (a)_____

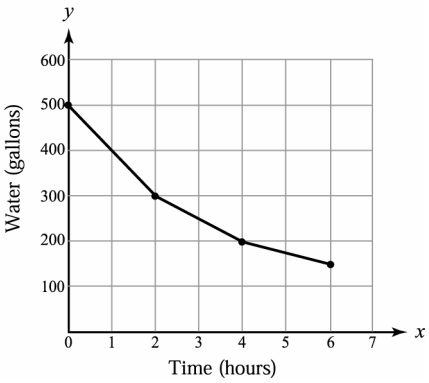
(b)_____

10. In 1994, tuition and fees at a public four-year college were $2125. In 1997, tuition and fees increased to $2689. What was the average yearly increase in fees from 1994 to 1997?

10. _____

11. The graph represents the amount of water (in gallons) remaining in a tank after t hours. At what rate was water being drained from the tank when $2 \le t \le 4$?

11. _____



12. Write the slope-intercept form of a line with x-intercept 1.29 and y-intercept –2.58.

12. _____

13. On Labor Day 2000, there were 24.8 travelers (in millions). On Labor Day 2004, there were 29.2 travelers (in millions). Let x represent the number of years since 2000. Write the slope-intercept equation of the line that passes through $(0, 24.8)$ and $(4, 29.2)$.

13. _____

14. The following table shows equivalent temperatures in degrees Celsius and degrees Fahrenheit. This data can be modeled by a linear function. Use your graphing calculator to find the slope of the graph of that function.

14. _____

C	-40°	0°	15°	35°	100°
F	-40°	32°	59°	95°	212°

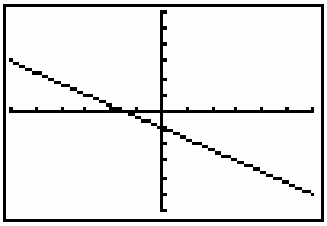
15. (a) Find the y-intercept of the graph of the linear function modeled in #14.
(b) What does the y-intercept represent?

15. (a)_____
(b)_____

16. Give the slope-intercept form of a line parallel to $y = 1.28x - 7.18$, passing through $(2, 3.17)$.

16. _____

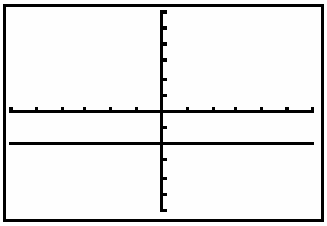
17. Find the slope-intercept form for the line shown in the graph. 17. _____



$[-6, 6, 1]$ by $[-6, 6, 1]$

18. Use the graph in #17 to find the equation of a line that passes through the origin and is parallel to the given line. 18. _____

19. Find an equation of the horizontal line in the graph. 19. _____



$[-6, 6, 1]$ by $[-6, 6, 1]$

20. From 1980 to 1997, the number of U.S. marriages (in millions) could be modeled by $f(x) = 2.4$, where x represents the years since 1980. Estimate the number of marriages in 1986. 20. _____