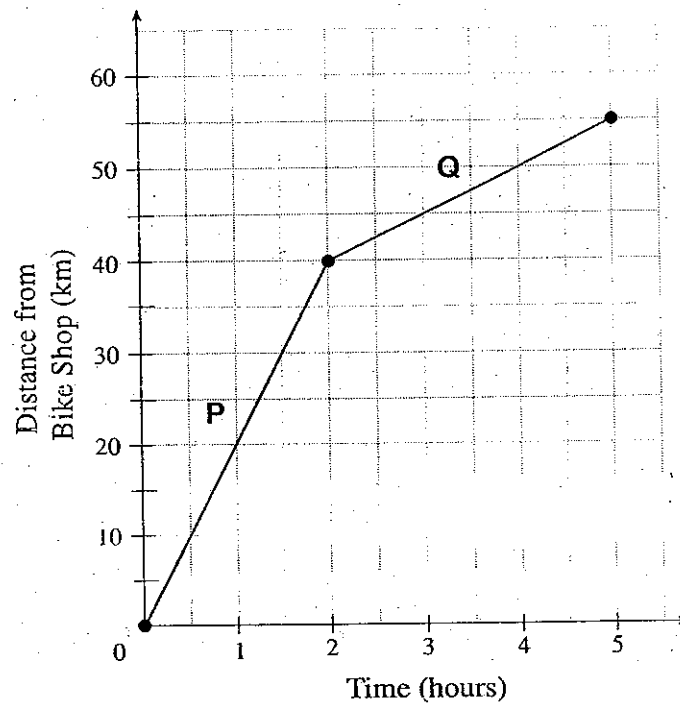


Chapter 5

NO CALCULATOR

①

The graph below models a bicycle's distance from a bike shop over time.



Calculate the change in the speed of the bike from segment P to segment Q.

- A. decreased by 15 km/h
- B. decreased by 5 km/h
- C. increased by 15 km/h
- D. increased by 11 km/h

②

The cost C , in dollars, of renting a hall for the prom is given by the formula $C(n) = 500 + 4n$, where n is the number of students attending the prom. Calculate the cost of renting the hall if 70 students attend.

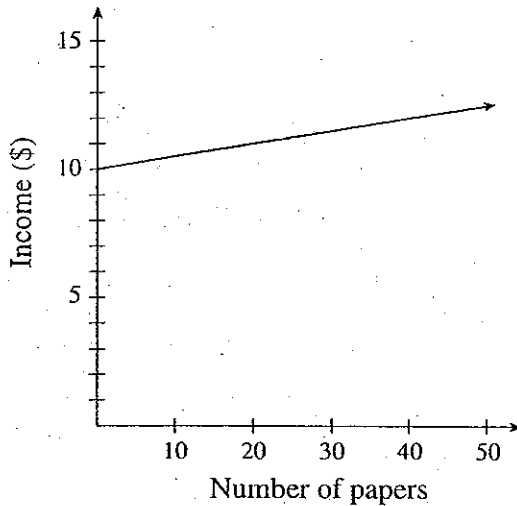
- A. \$108
- B. \$500
- C. \$780
- D. \$970

CALCULATOR PERMITTED

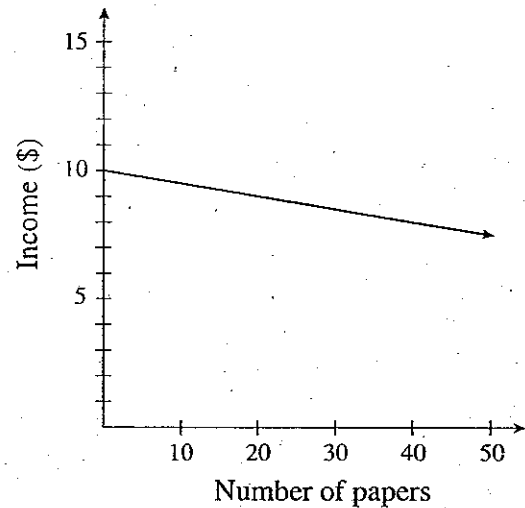
③

Jim delivers newspapers. He gets paid 10 dollars for every day of work, plus 5 cents for every paper he delivers. Which of the following graphs best represents Jim's possible income for one day?

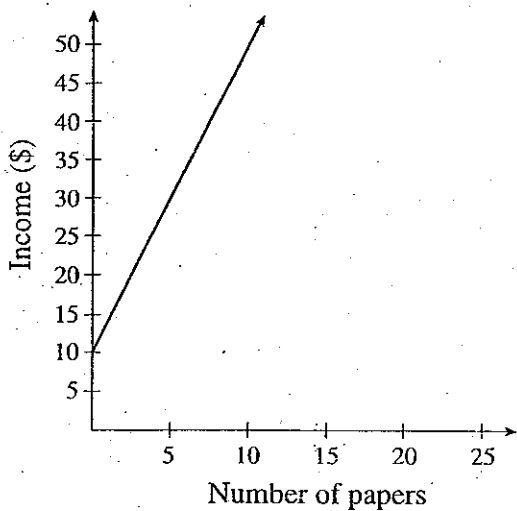
A.



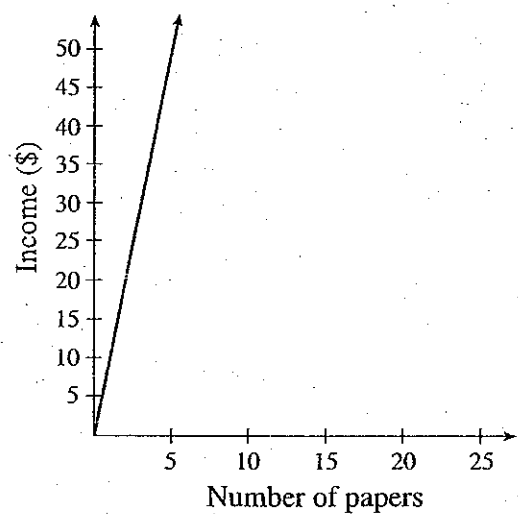
B.



C.



D.

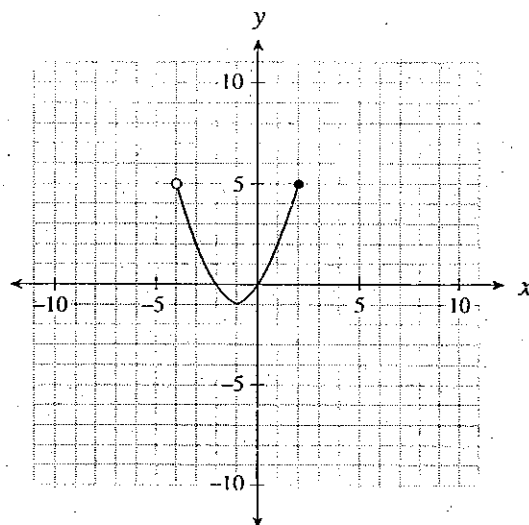


④

Alex bought 144 bagels for \$80. His profit was \$75 once he had sold 100 bagels. Which equation below represents Alex's profit P , as a function of the number sold, n ?

- A. $P = -0.05n + 80$
- B. $P = 0.05n - 80$
- C. $P = 0.75n$
- D. $P = 1.55n - 80$

- 5 Determine the domain of the relation graphed below.



- A. $(-4, 2]$
 B. $[-4, 2)$
 C. $[-1, 5)$
 D. $[-1, 5]$

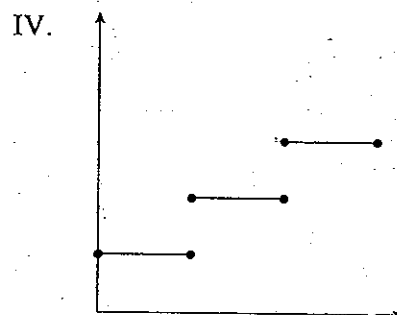
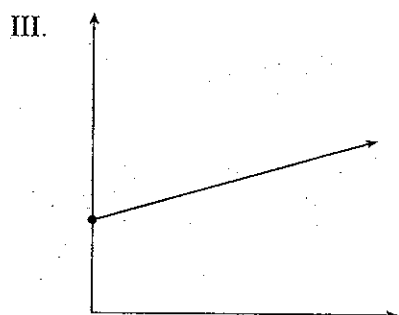
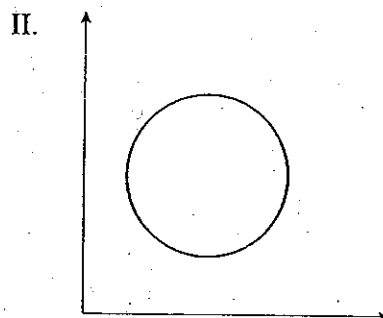
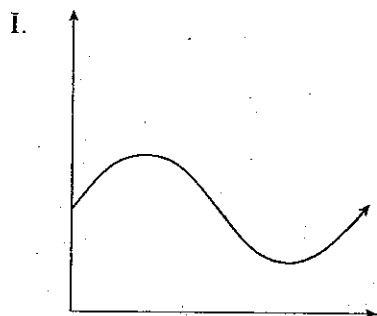
- 6 Which of the following coordinates are intercepts of the linear relation $2x - 3y + 30 = 0$?

I.	$(0, 10)$
II.	$(0, \frac{2}{3})$
III.	$(-10, 0)$
IV.	$(-15, 0)$

- A. I only
 B. I and IV only
 C. II and III only
 D. II and IV only

⑦

Which of the following relations are also functions?



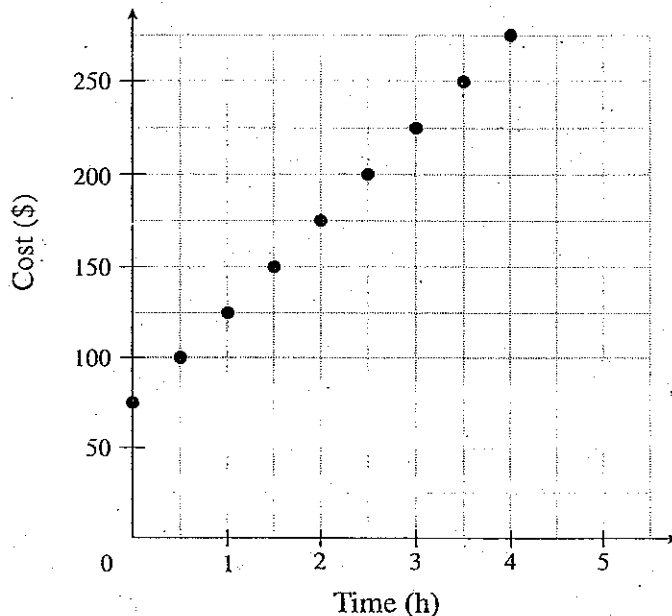
- A. III only
 B. I and III only
 C. II and IV only
 D. I, III and IV only

⑧

The cost to insure jewellery is a fixed amount plus a percentage of the value of the jewellery. It costs \$32 to insure \$1000 worth of jewellery or \$44.50 to insure \$3500 worth of jewellery. What is the fixed amount to insure jewellery?

- A. \$27.00
 B. \$31.25
 C. \$44.65
 D. \$58.82

Cost of Hiring an Electrician vs. Time

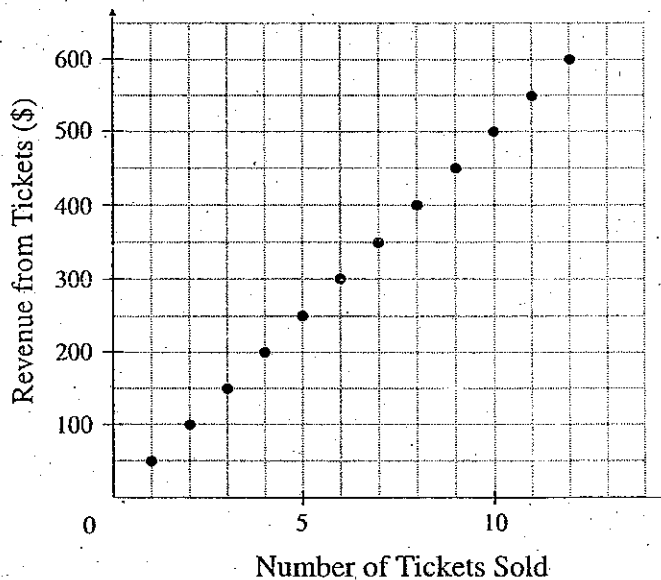


use for #9

9. What is the cost of hiring an electrician for 8 hours?

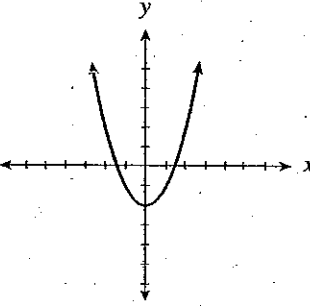
- A. \$550
- B. \$475
- C. \$400
- D. \$275

10. What does the slope represent in the graph below?



- A. price per ticket
- B. profit from tickets
- C. revenue from tickets
- D. number of tickets sold

11 Which of the following relations are also functions?

I.	$\{(0, 2), (1, 4), (3, 6), (4, 5), (4, 3), (7, -8)\}$
II.	$y = 2x + 5$
III.	The output is 6 more than half the input.
IV.	

- A. I only
 B. I and IV only
 C. II and III only
 D. II, III and IV only

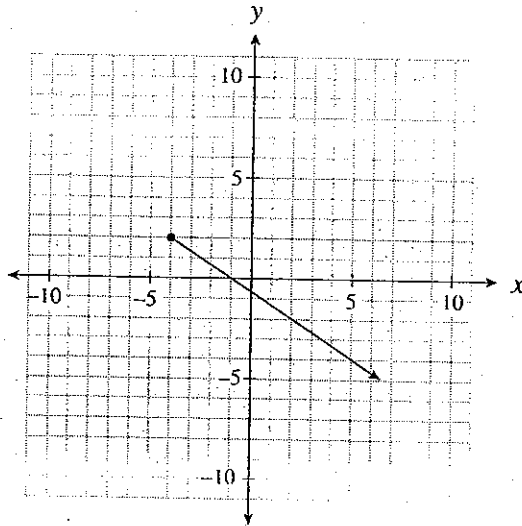
12 Damien has a list of 37 potential customers for his house-painting business. In order to get a business grant, he must graph his income versus the number of customers. Determine the domain of the graph.

- A. $\{0, 1, 2, 3, \dots\}$
 B. $\{0, 1, 2, 3, \dots, 37\}$
 C. all real numbers
 D. all real numbers between 0 and 37

13 A hot-dog stand owner makes a profit of \$100 when he sells 90 hot dogs a day. He has a loss of \$30 when he sells 25 hot dogs a day. Which linear relation represents his profit?

- A. $y = 0.5x + 55$
 B. $y = -1.08x + 3.08$
 C. $y = 1.11x$
 D. $y = 2x - 80$

14. Determine the range of the linear relation graphed below.



- A. $y \leq -4$
 B. $y \leq 2$
 C. $y \geq -4$
 D. $y \geq 2$

15. Which ordered pair represents $f(3) = -5$?

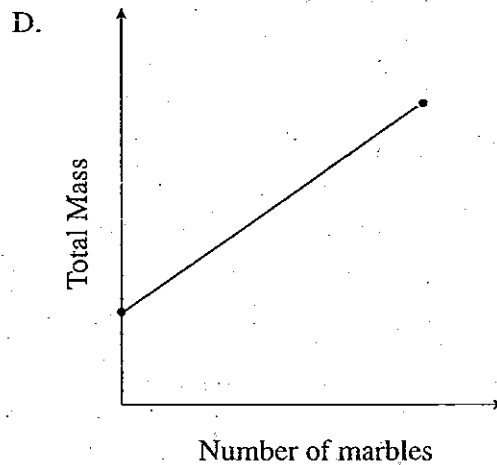
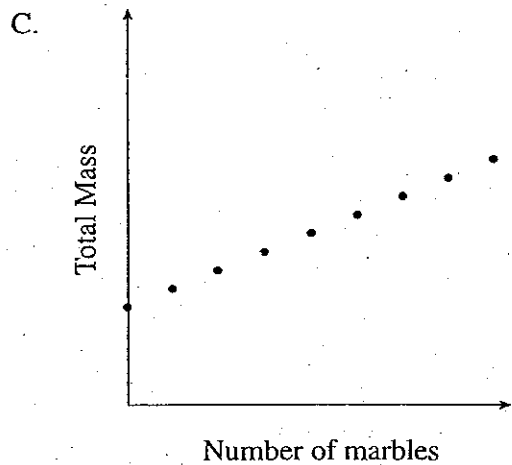
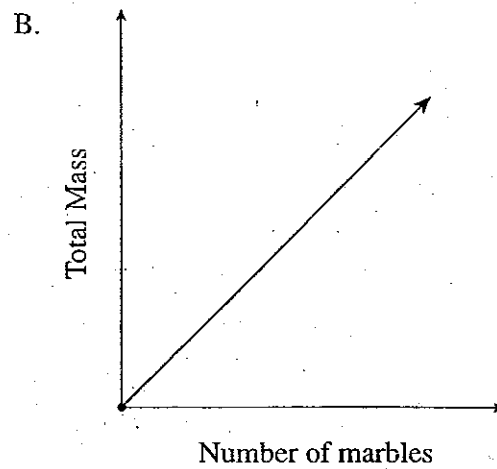
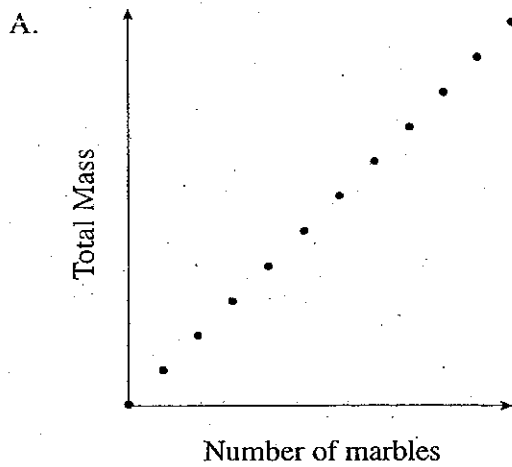
- A. $(-5, 3)$
 B. $(-3, 5)$
 C. $(3, -5)$
 D. $(5, -3)$

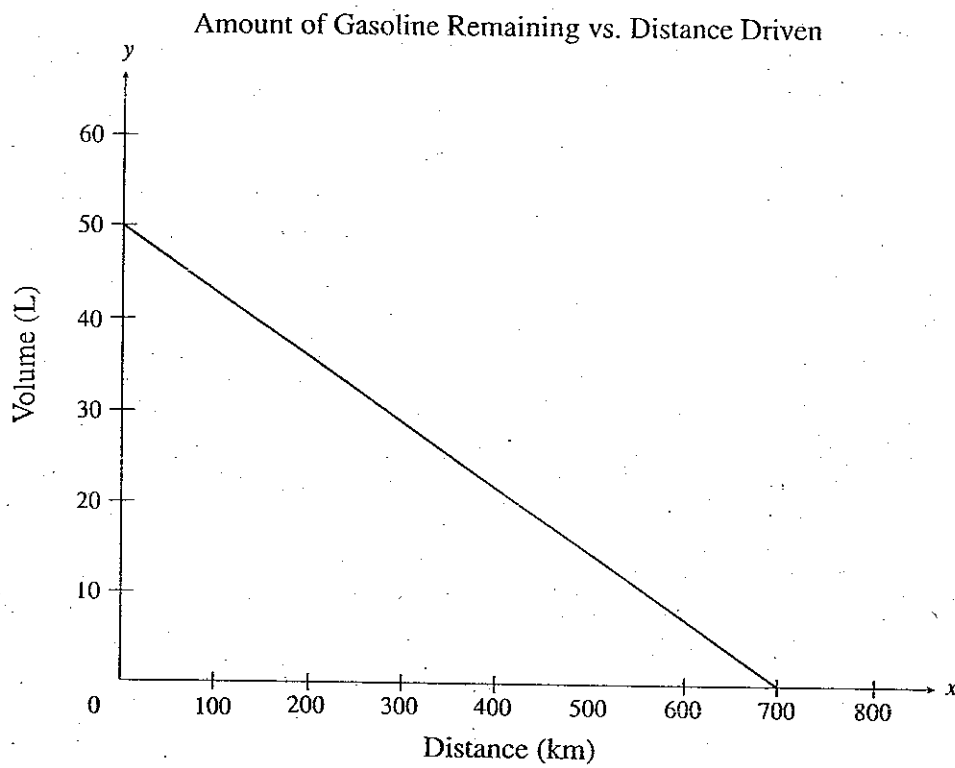
16. Which of the following scenarios is **not** linear?

- A. the height of a football thrown over time
 B. the total weight of a jar of pennies as more pennies are added
 C. the distance travelled by a car moving at a constant speed over time
 D. the pay of a truck driver who earns \$2500 a month, plus \$0.50 for every kilometre he drives

17

Marbles are placed in a jar one at a time. Which graph below best represents the total mass of the jar and marbles as the marbles are added?





18

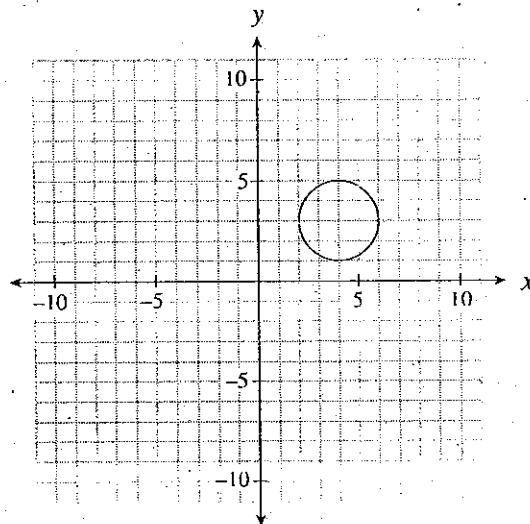
The graph above shows the relationship between the amount of gasoline remaining in a 50 L tank and the distance driven for a certain car.

What does the x -intercept represent in this situation?

- A. fuel capacity of the gasoline tank
- B. total distance travelled during a long trip
- C. total distance driven until the car is out of gas
- D. number of kilometres driven per litre of gasoline

19

What is the range of the graph below?



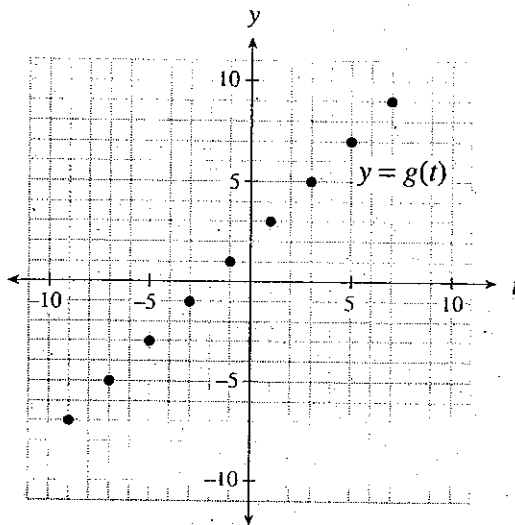
I.	All x values between 2 and 6 inclusive.
II.	$(2, 6)$
III.	$[1, 5]$
IV.	$1 \leq y \leq 5$

- A. III only
- B. IV only
- C. I and II only
- D. III and IV only

Numerical Response

20

Given the graph of $y = g(t)$ below, determine the value of t for which $g(t) = -3$.
Answer as an integer.



Answer
 $\overset{+}{\circ} \overset{-}{\circ}$.

21

The cost C , in dollars, to rent a car is determined by the formula $C(k) = 0.15k + 22$, where k is the number of kilometres driven. Calculate the value of k if $C(k) = 166$.
Answer to the nearest kilometre.

Record your answer neatly on the Answer Sheet.

Answer
 $\overset{+}{\circ} \overset{-}{\circ}$.

CHAPTER 5

Answer Key

No Calc M/C

- 1. A
- 2. C

Calc M/C

- 3. A
- 4. D
- 5. A
- 6. B
- 7. B
- 8. A
- 9. B
- 10. A
- 11. D
- 12. B
- 13. D
- 14. B
- 15. C
- 16. A
- 17. C
- 18. C
- 19. D

Numerical Response

- 20. \pm 5
- 21. \pm 9 0