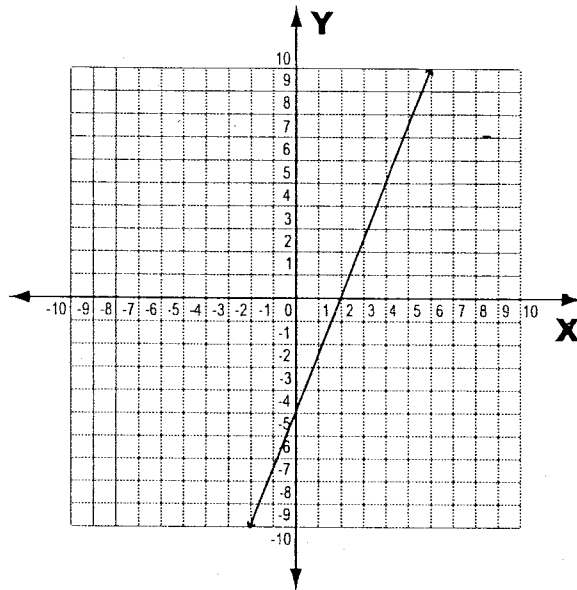


Linear Equations – Objective 3 Step 7C

The student is expected to determine the intercepts of the graphs of linear functions and zeros of linear functions from graphs, tables, and algebraic representations. TEKS (A.6)(E)

- 1 Which coordinate points represent the x - and y -intercepts of the graph below?

Show Work



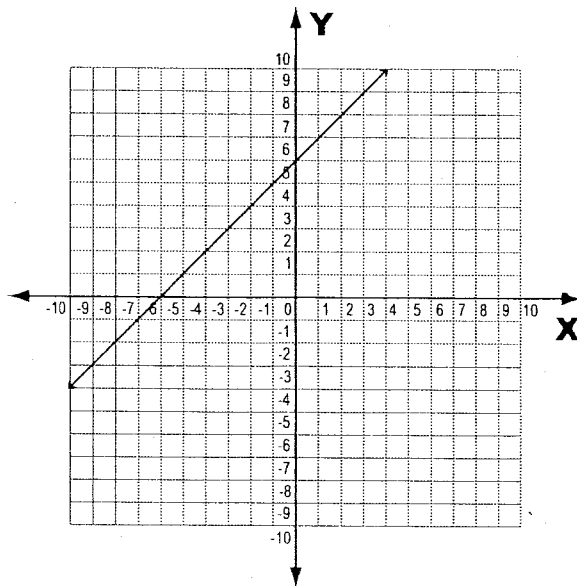
A $(-5, 0)$ and $(0, 2)$

C $(0, -5)$ and $(0, 2)$

B $(-5, 0)$ and $(2, 0)$

D $(0, -5)$ and $(2, 0)$

- 2 Which coordinate points represent the x - and y -intercepts of the graph below?



A $(6, 0)$ and $(0, -6)$

C $(0, 6)$ and $(0, -6)$

B $(6, 0)$ and $(-6, 0)$

D $(0, 6)$ and $(-6, 0)$

Properties and Attributes of Functions – Objective 2 Step 2B

The student is expected to identify mathematical domains and ranges and determine reasonable domain and range values for given situations, both continuous and discrete.
TEKS (A.2)(B)

1 What is the domain of the function

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

when the range is $\{3, 5, 9\}$?

A $\{0, 1, 3\}$

B $\{2, 3, 5\}$

C $\{6, 10, 18\}$

D $\{9, 13, 21\}$

Show Work

2 What is the domain of the function

$$f(x) = 4x - 3$$

when the range is $\{-7, -3, 5\}$?

A $\{-31, -15, 17\}$

B $\{-25, -9, 15\}$

C $\{-1, 0, 2\}$

D $\{0, 1, 2\}$

3 What is the range of the function

$$f(x) = 4 - 2x$$

when the domain is $\{-4, -3, -2\}$?

A $\{-4, -2, 0\}$

B $\{8, 10, 12\}$

C $\{-4, -2, 0\}$

D $\{-8, -6, -4\}$

4 What is the range of the function

$$f(x) = x^2 - 4$$

when the domain is 3?

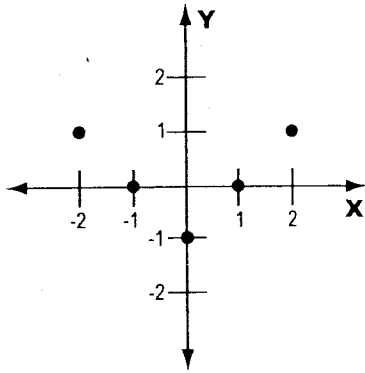
Record and bubble in your answer on the answer document.

-	0	0	0	.	0
	1	1	1		1
	2	2	2		2
	3	3	3		3
	4	4	4		4
	5	5	5		5
	6	6	6		6
	7	7	7		7
	8	8	8		8
	9	9	9		9

Properties and Attributes of Functions – Objective 2 Step 2C

The student is expected to identify mathematical domains and ranges and determine reasonable domain and range values for given situations, both continuous and discrete.
TEKS (A.2)(B)

1 The graph defines a relation.



Show Work

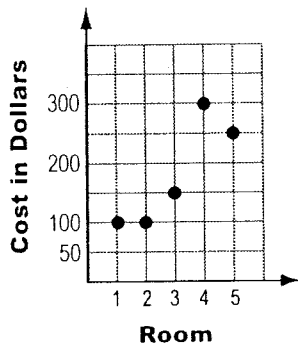
What is the domain of the relation?

- A $\{-2, -1, -1, 1, 1, 2\}$
- B $\{-2, -1, 0, 1, 2\}$
- C $\{(1, -2), (0, -1), (-1, 0), (0, 1), (1, 2)\}$
- D $\{(-2, 1), (-1, 0), (0, -1), (1, 0), (2, 1)\}$

2 Which of the following relations is a function?

- A $\{(0, 1), (0, 2), (0, 3)\}$
- B $\{(1, 0), (2, 0), (3, 0)\}$
- C $\{(0, 1), (1, 0), (0, 3)\}$
- D $\{(0, 1), (1, 1), (0, 3)\}$

3 The graph defines a relation.



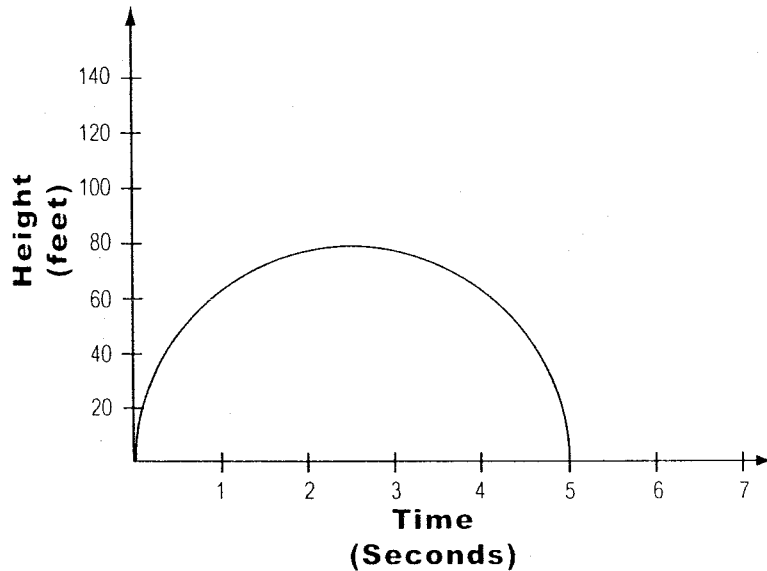
What is the range of the relation?

- A $\{100, 200, 300\}$
- B $\{1, 3, 4, 5\}$
- C $\{100, 150, 250, 300\}$
- D $\{100, 100, 150, 300, 250\}$

Properties and Attributes of Functions – Objective 2 Step 2D

The student is expected to identify mathematical domains and ranges and determine reasonable domain and range values for given situations, both continuous and discrete.
TEKS (A.2)(B)

- 1 Lloyd punted a football into the air. The graph below shows the path of the football.

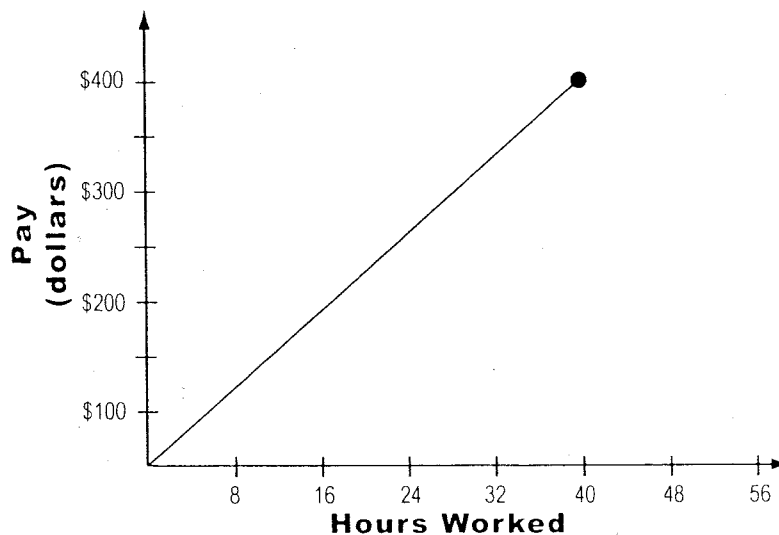


Show Work

What is the range of this function?

- A $0 < y < 80$ C $0 < x < 5$
B $0 \leq y \leq 80$ D $0 \leq x \leq 5$

- 2 Tracey graphed the number of hours she worked last week and her pay.



What is the domain of this function?

- A $0 < y < 400$ C $0 < x < 40$
B $0 \leq y \leq 400$ D $0 \leq x \leq 40$

Quadratic and Other Nonlinear Functions – Objective 5 Step 4A

The student is expected to make connections among the solutions (roots) of quadratic equations, the zeros of their related functions, and the horizontal intercepts (x -intercepts) of the graph of the function. TEKS (A.10)(B)

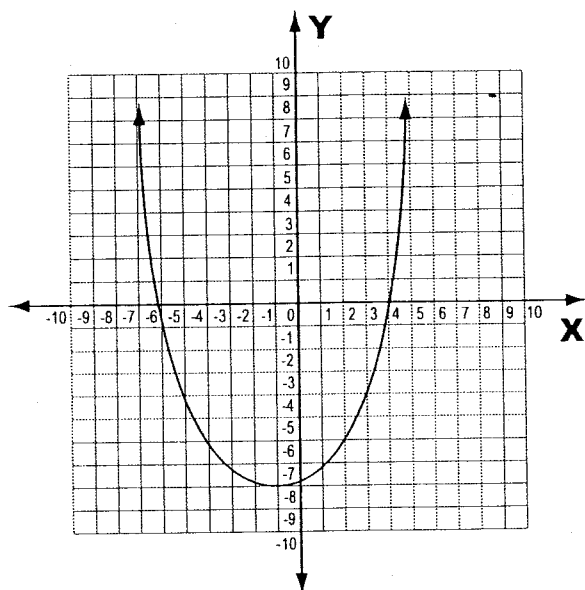
1 What are the roots of the quadratic equation $x^2 - x - 6 = 0$? A 3 and 2 B -3 and 2 C 3 and -2 D -3 and -2	Show Work
2 What are the roots of the quadratic equation $x^2 + 7x + 6 = 0$? A 6 and 1 B -6 and 1 C 6 and -1 D -6 and -1	
3 What are the roots of the quadratic equation $x^2 + 2x - 15 = 0$? A 5 and 3 B -5 and 3 C 5 and -3 D -5 and -3	
4 What are the roots of the quadratic equation $x^2 - 6x + 8 = 0$? A 4 and 2 B -4 and 2 C 4 and -2 D -4 and -2	
5 What are the roots of the quadratic equation $x^2 - 10x + 21 = 0$? A 3 and 7 B -3 and 7 C 3 and -7 D -3 and -7	
6 What are the roots of the quadratic equation $x^2 - 3x - 28 = 0$? A 7 and 4 B -7 and 4 C 7 and -4 D -7 and -4	

Quadratic and Other Nonlinear Functions – Objective 5 Step 4B

The student is expected to make connections among the solutions (roots) of quadratic equations, the zeros of their related functions, and the horizontal intercepts (x -intercepts) of the graph of the function. **TEKS (A.10)(B)**

1 What are the roots of the function graphed below?

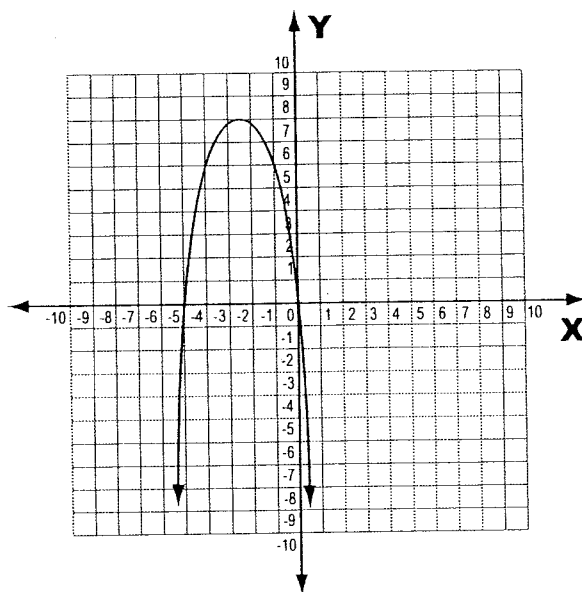
Show Work



- A $(-1, -9)$ and $(6, 7)$
B $(0, -8)$ and $(-9, -1)$

- C $(4, 0)$ and $(-6, 0)$
D $(0, 4)$ and $(0, -6)$

2 What are the roots of the function graphed below?



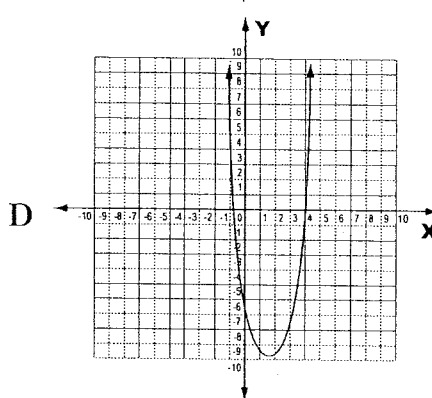
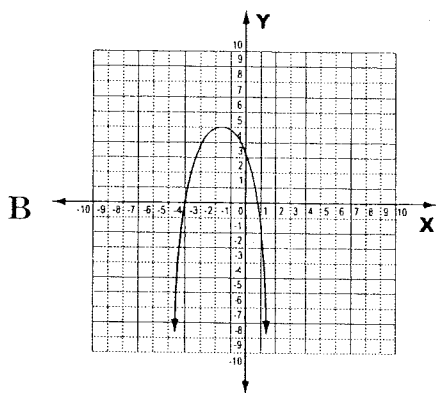
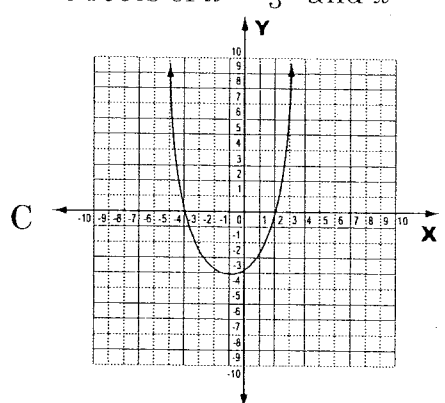
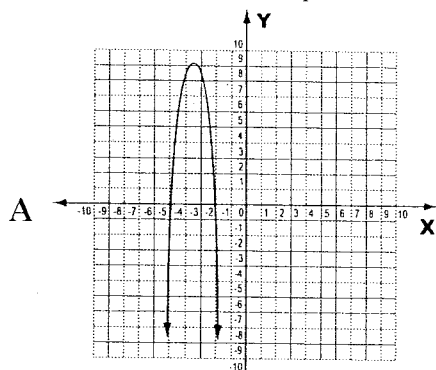
- A $(0, 0)$ and $(-5, 0)$
B $(-2\frac{1}{2}, 8)$ and $(0, 0)$

- C $(0, 0)$ and $(0, -5)$
D $(0, 0)$ and $(-2, -8)$

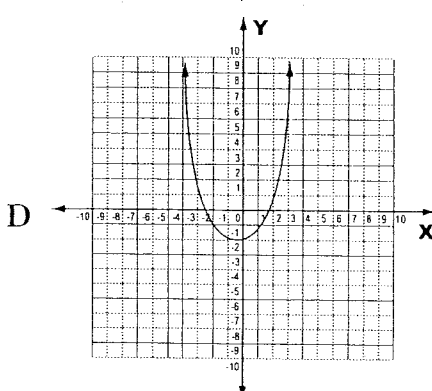
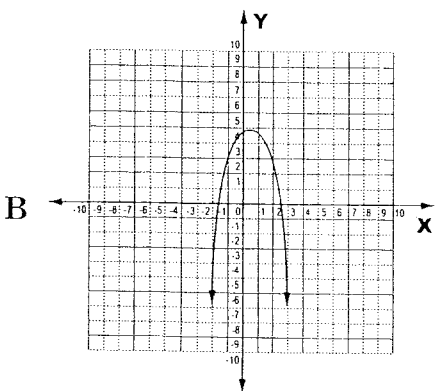
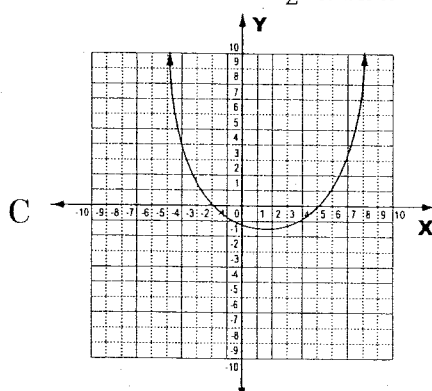
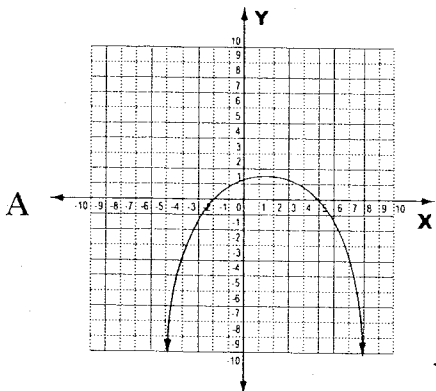
Quadratic and Other Nonlinear Functions – Objective 5 Step 4C

The student is expected to make connections among the solutions (roots) of quadratic equations, the zeros of their related functions, and the horizontal intercepts (x-intercepts) of the graph of the function. **TEKS (A.10)(B)**

- 1 Which graph best represents an equation that has the roots of $x = \frac{2}{3}$ and $x = -4$?



- 2 Which graph best represents an equation that has the roots of $x = -\frac{5}{2}$ and $x = \frac{3}{2}$?



Quadratic and Other Nonlinear Functions – Objective 5 Step 5A

The student is expected to use patterns to generate the laws of exponents and apply them in problem-solving situations. TEKS (A.11)(A)

1 Which expression represents the product of $(2x^2y^2)(3x^3y^3)$?

Show Work

A $6x^6y^6$

C $5x^6y^6$

B $5x^5y^5$

D $6x^5y^5$

2 Which expression represents the product of $(4x^3y^2)^2(3xz^4)$?

A $48x^7y^4z^4$

C $7x^6y^4z^4$

B $7x^7$

D $12x^4y^2z^4$

3 Which expression represents the product of $(6x^4y^2z)(x^3yz^4)$?

A $x^{12}y^2z^4$

C $x^7y^3z^5$

B $6x^7y^3z^5$

D $6x^{12}y^2z^4$

4 Which expression represents the product of $(4a^2b^2c^2)^2(5a^2b^2)$?

A $20a^4b^4c^2$

C $80a^4b^4c^2$

B $20a^6b^6$

D $80a^6b^6c^4$

5 Which expression represents the product of $(abc)(3c)$?

A $3abc^3$

C $4abc^3$

B $3abc^2$

D $3c^2$

6 Which expression represents the product of $(6x^2)(7y^2)$?

A 42

C $13x^2y^2$

B $42x^2y^2$

D $42xy$

Quadratic and Other Nonlinear Functions – Objective 5 Step 5B

The student is expected to use patterns to generate the laws of exponents and apply them in problem-solving situations. TEKS (A.11)(A)

	Show Work
<p>1 Which expression represents the quotient of $\frac{-8xy^2z}{-2x^2y}$?</p> <p>A $-16x^3y^3z$ C $\frac{4yz}{x}$</p> <p>B $-4xyz$ D $\frac{-4y}{xz}$</p>	
<p>2 Which expression is equivalent to $\frac{x^2y^2z^2}{4y^4}$?</p> <p>A $4y^6$ C $\frac{x^2z^2}{4y^2}$</p> <p>B y^6 D $4x^2y^6z^2$</p>	
<p>3 Which expression is equivalent to $\frac{4x^2}{6xy}$?</p> <p>A $24x^3y$ C $\frac{2x}{3y}$</p> <p>B $\frac{2y}{3x}$ D $\frac{3x}{2y}$</p>	
<p>4 Which expression is equivalent to $\frac{2x^2y^3}{6xy^4}$?</p> <p>A $\frac{3y}{x}$ C $\frac{x}{3y}$</p> <p>B $12x^3y^7$ D $4xy$</p>	
<p>5 Which expression is equivalent to $\frac{2xyz}{4xyz}$?</p> <p>A $\frac{1}{2}$ C $\frac{xz}{2y}$</p> <p>B $12x^3y^7$ D $8x^2y^2z^2$</p>	
<p>6 Which expression is equivalent to $\frac{4a^2b^2c^2}{6abc^4}$?</p> <p>A $\frac{2ab}{3c^2}$ C $24a^3b^3c^6$</p> <p>B $\frac{2abc^2}{3}$ D $\frac{ab}{2c^2}$</p>	

Quadratic and Other Nonlinear Functions – Objective 5 Step 5C

The student is expected to use patterns to generate the laws of exponents and apply them in problem-solving situations. TEKS (A.11)(A)

- 1 The area of a square is $81a^4b^2$ square units. What is the length of each side in the units?

Show Work

- A $9ab$
- B $81ab$
- C $9a^2b$
- D $81a^2b$

- 2 The area of a triangle is $42a^3b^4$ square units. If the base of the triangle is $7ab$ units, what is the height in units?

- A $6a^2b^3$
- B $6ab$
- C $12ab$
- D $12a^2b^3$

- 3 The area of a rectangle is $12x^2y^2$ square units. If the length of the rectangle is xy^2 units, what is the width in units?

- A x
- B xy
- C $12x$
- D $12xy$

- 4 The area of a rectangle is $28m^4n^5$ square units. If the width of the rectangle is $14n^4$, what is the length in units?

- A $2m^2$
- B $2m^4n$
- C $14m^2n$
- D $14mn^2$