



## Ninth Grade - Interpreting Functions

1) Find the maximum or minimum value in the graph  $x^2 + x + 1$

- Minimum value = 3 / 4
- Maximum value = 4 / 3
- Minimum value = 4 / 5
- Minimum value = 4 / 8

2) Find the maximum or minimum value in the graph  $-x^2 + 2x + 1$

- Maximum value = 2
- Maximum value = -2
- Minimum value = -2
- Minimum value = 2

3) Find the maximum or minimum value in the graph  $4x^2 - x - 1$

- Minimum value = -19/ 16
- Maximum value = -17 / 16
- Maximum value = - 4 / 16
- Minimum value = 17 / 16

4) Find the maximum or minimum value in the graph  $-5x^2 + 2x - 1$

- Maximum value = - 6 / 5
- Maximum value = - 4 / 5
- Maximum value = 4 / 5
- Minimum value = -4 / 5

5) Find the maximum or minimum value in the graph  $2(x-3)^2 + 3$

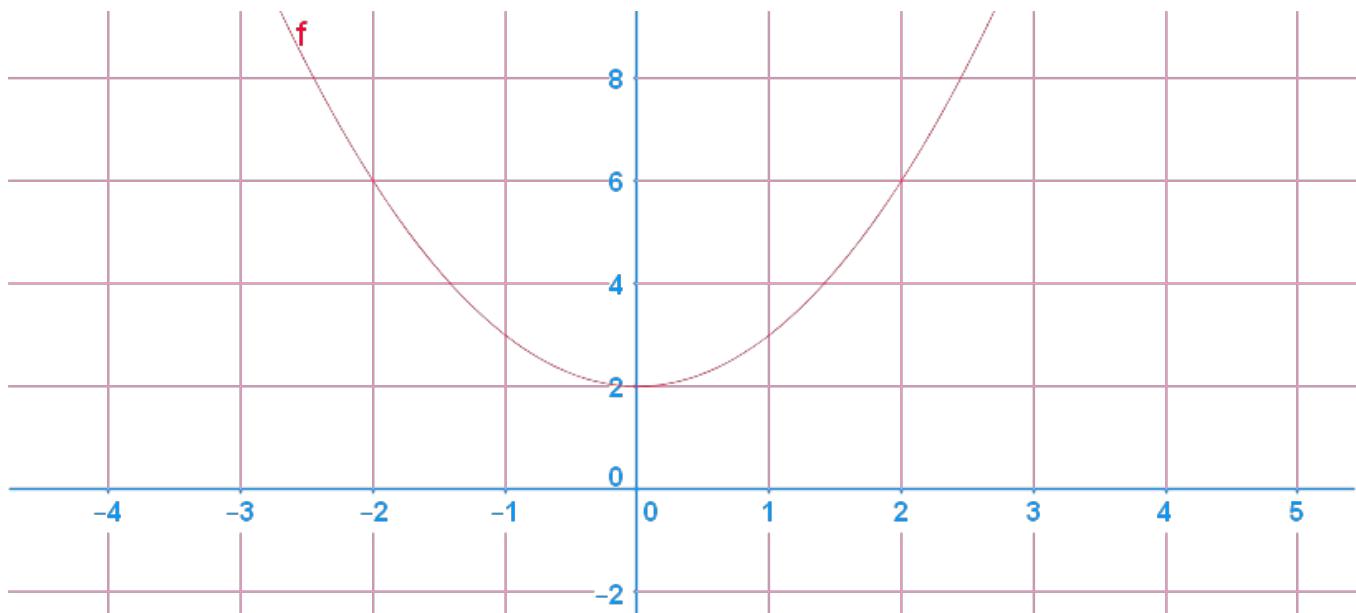


- Maximum value = -3
- Maximum value = 3
- Minimum value = 9
- Minimum value = 3

6) Find the maximum or minimum value in the graph  $-3(x - 4)^2 - 4$

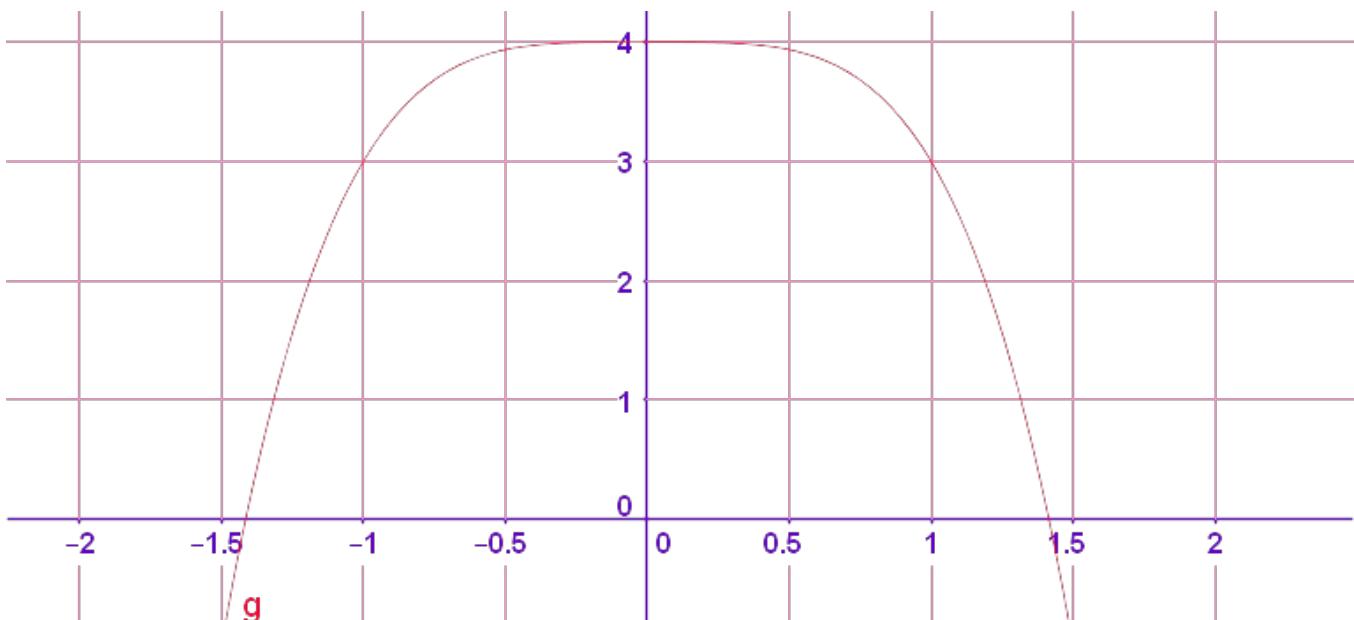
- Minimum value = -4
- Minimum value = 4
- Maximum value = -4
- Maximum value = -6

7) Determine the range of function for the graph?



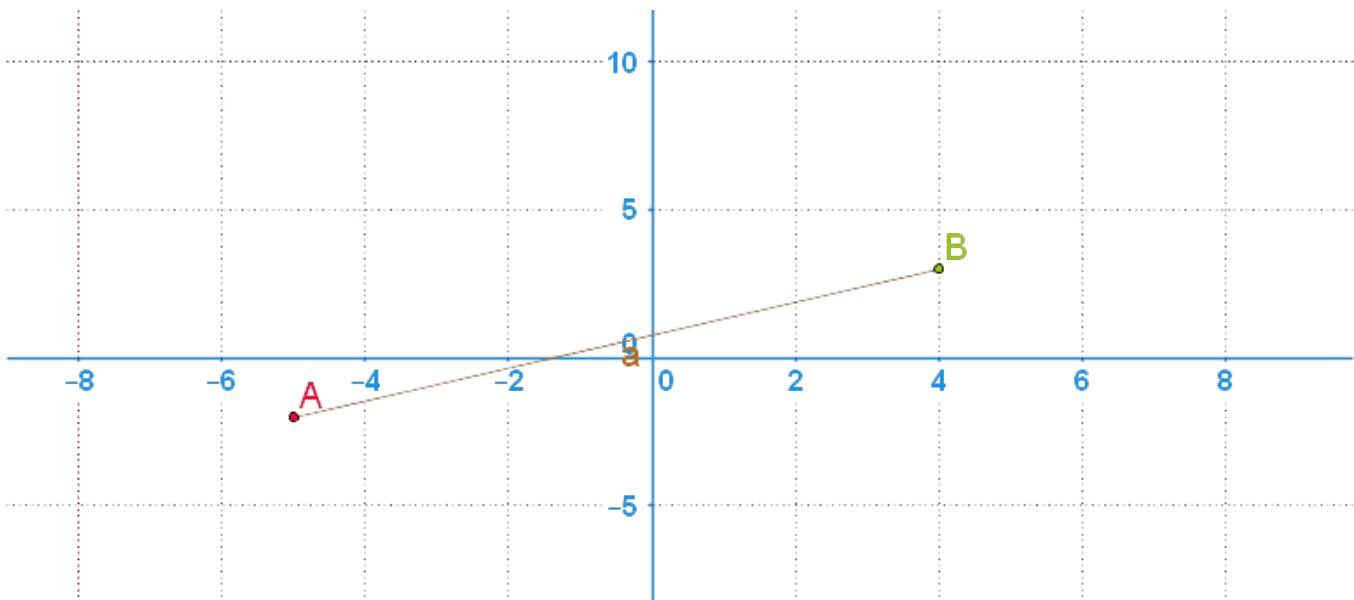
- $y > 2$
- $y \geq 2$
- $y < 2$
- $y \leq 2$

8) Determine the domain of function for the graph?



- $- ?$
- $- ?$
- $? ?$
- $? ?$
- $y \geq 0$

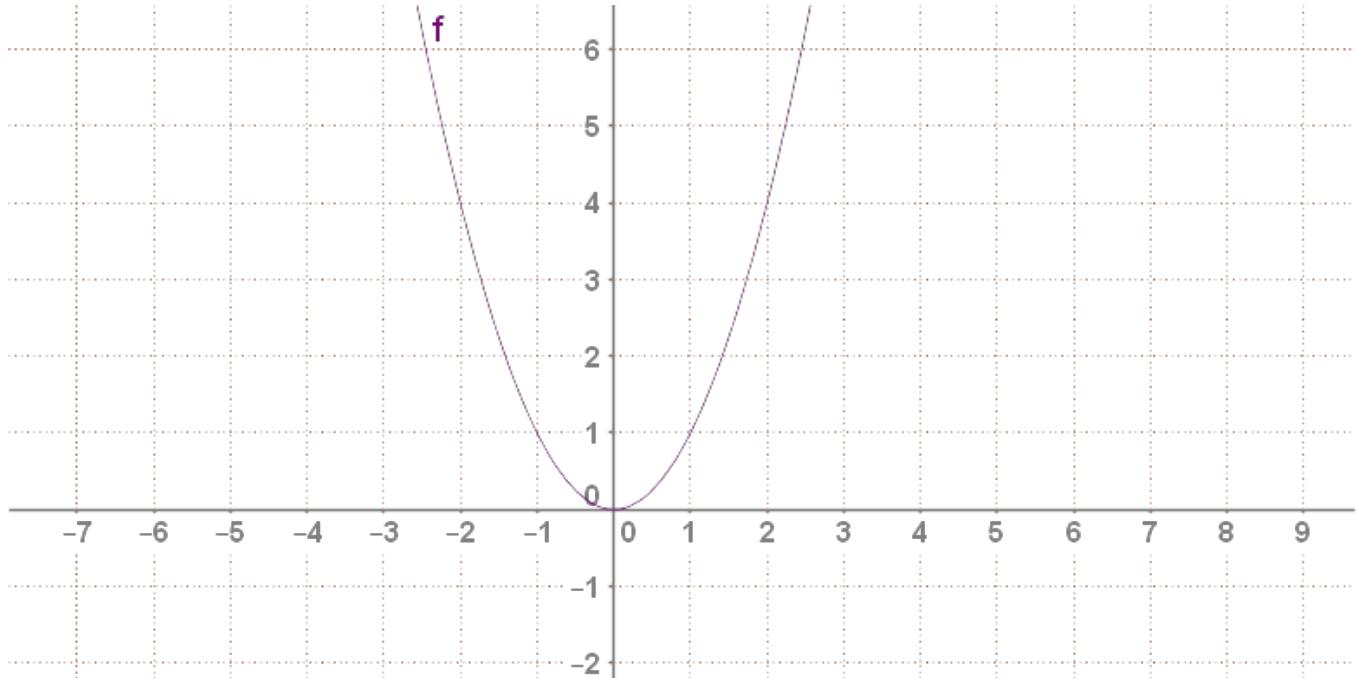
10) Determine the domain of function for the graph?



- -5
- 9
- -5
- 5



11) Determine the range of function for the graph?



- 0
- $0 \leq y$
- $0 \geq y$
- $0 > y > ?$

12) Convert point slope  $y - 3 = 5(x - 4)$  to slope intercept form.

- $y = 5x + 13$
- $y = 5x + 19$
- $y = 5x - 17$
- $y = 5x + 16$

13) Convert point slope  $y - 4 = 2(x - 3)$  to slope intercept form and find the value of m

- 5
- 8
- 5
- 2



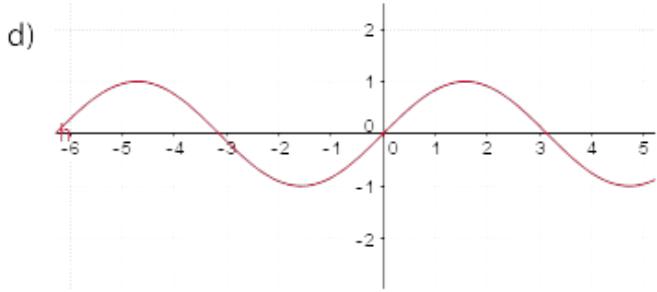
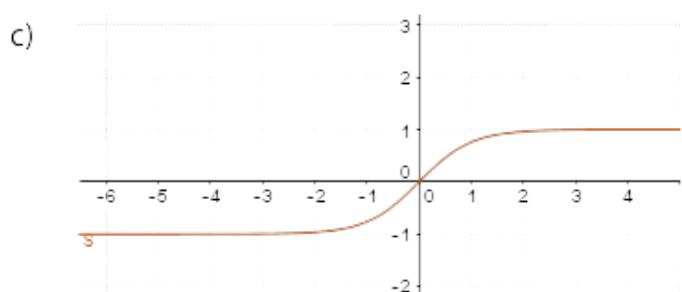
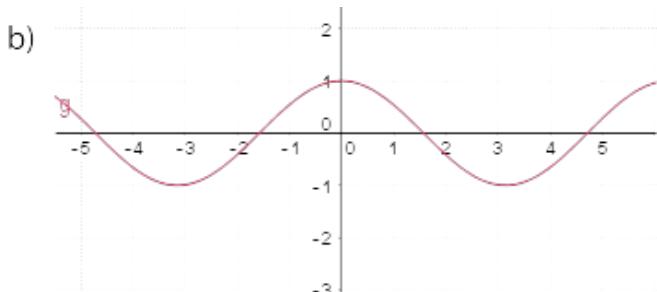
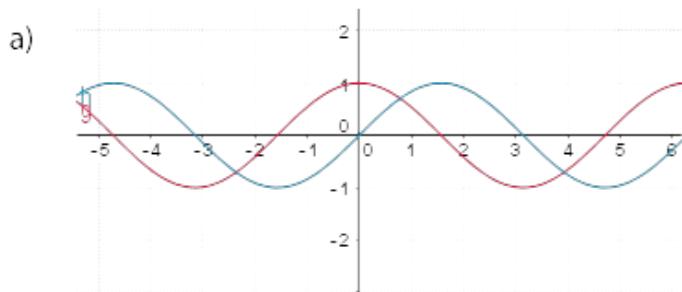
14) Convert a slope intercept  $y = (5/4)x + 5$  to standard form

- $9x - 5y = 30$
- $4y + 5x = -20$
- $y - x = 4$
- $4y - 5x = 20$

15) Convert a slope intercept  $y = (2/3)x - 4$  to standard form

- $y + x = 8$
- $x + y = 6$
- $3y - 2x = -12$
- $y - x = -6$

16) Identify Sine graph from the following graphs

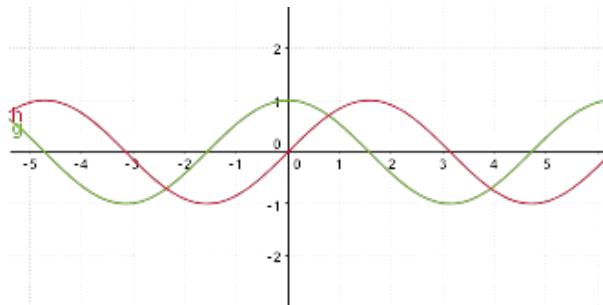


- a
- c
- b
- d

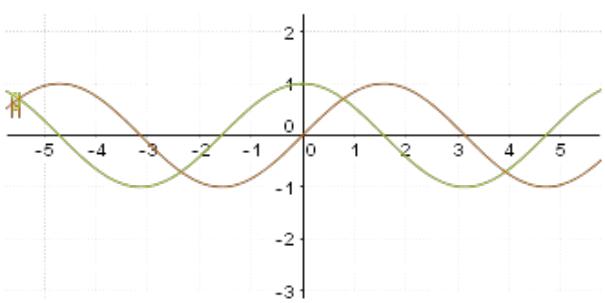


17) Identify Cosine graph from the following graphs

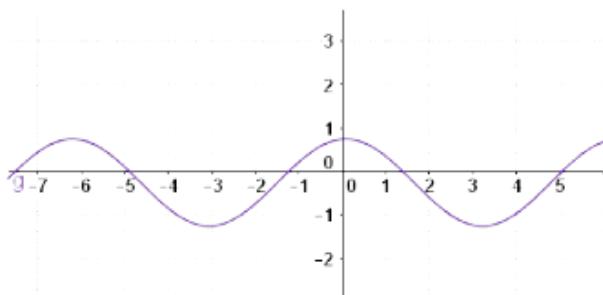
a)



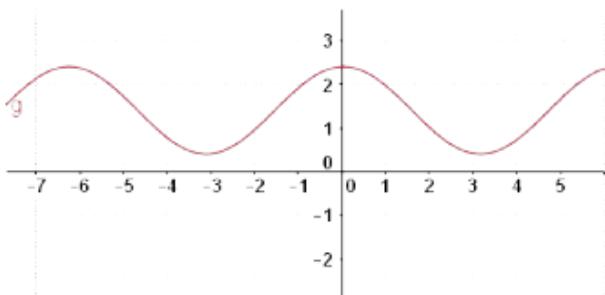
b)



c)



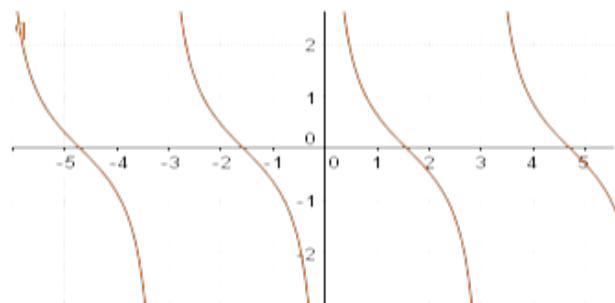
d)



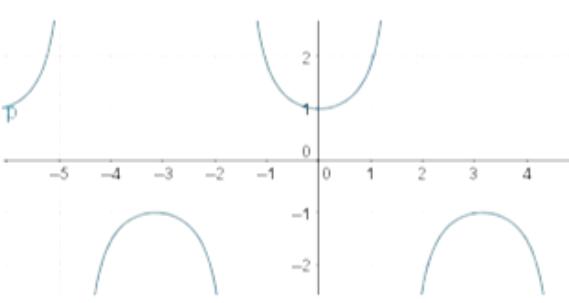
- b
- c
- a
- d

18) Identify the graph does not represent Periodic function from the following graphs

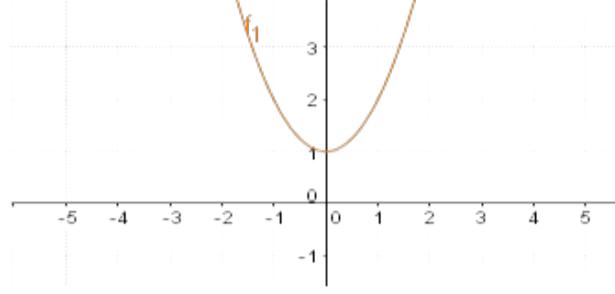
a)



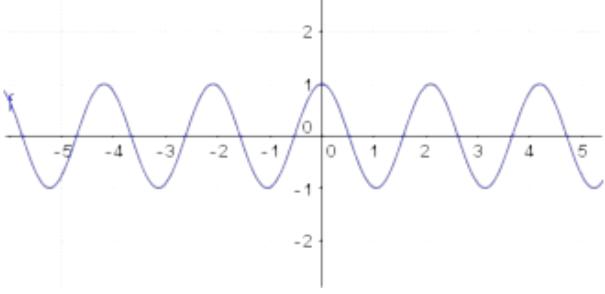
b)



c)



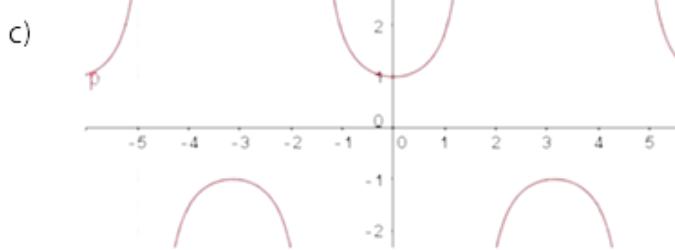
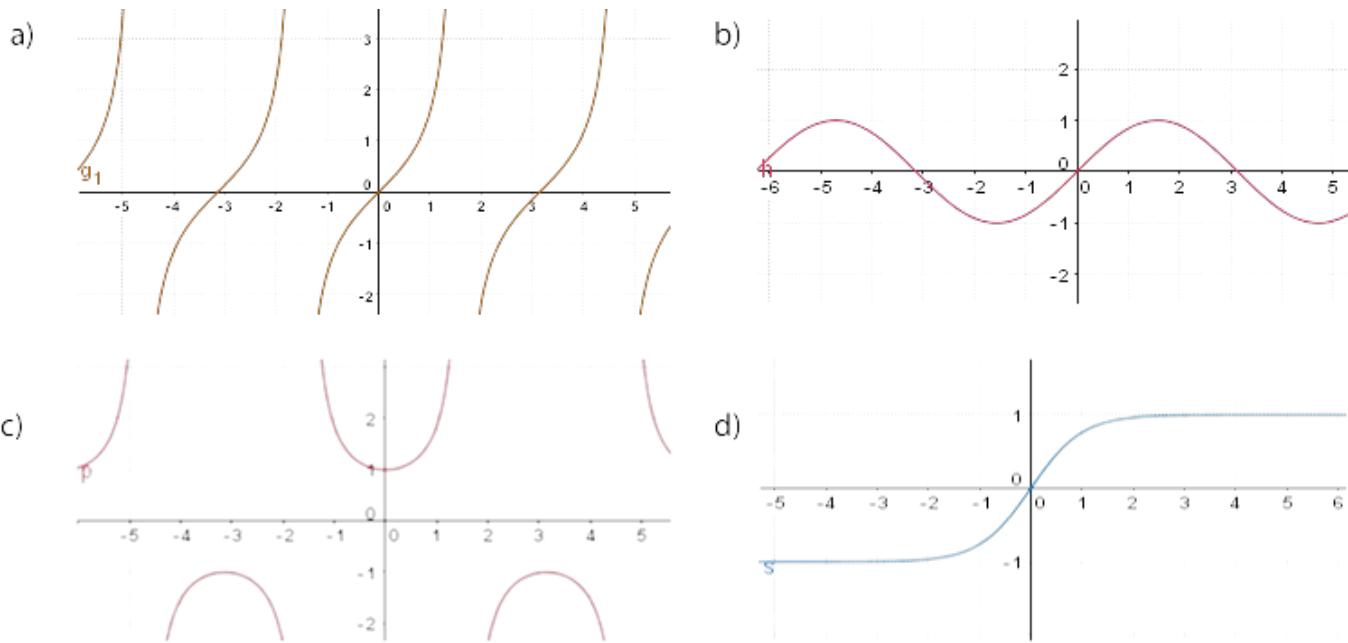
d)





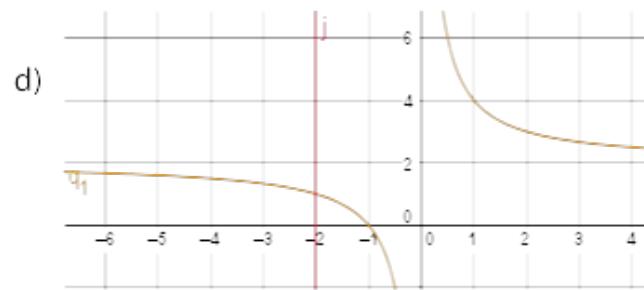
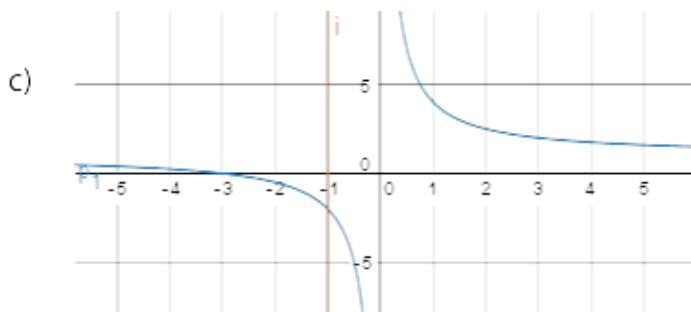
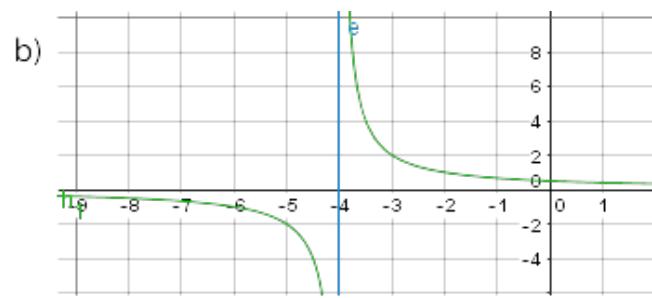
- Graph 3
- Graph 4
- Graph 1
- Graph 2

19) Identify the tangent function from the following graphs



- c
- b
- a
- d

20) Identify the correct graph for the function  $f(x) = 1/(x+2)$



- b
- d
- a
- c

21) Identify the zeros of the function  $f(x) = (x^2 + 3x + 2) / (x^2 - 2x - 3)$

- -3
- -8
- -2
- -5

22) Identify the zeros of the function  $f(x) = (x^2 - 6x + 9) / (x^2 - 9)$

- -1
- 2
- No zeros
- -2

23) Identify the zeros of the function  $f(x) = (x - 3) / (x + 3)$



- -8
- -3
- 3
- 2

24) Identify the period for the function  $y = 2\sin 4x + 3$

- ? / 2
- ? / 4
- ? / 6
- ? / 3

25) Identify the amplitude for the function  $y = -2\sin (2/3)(x - (?/2))$

- 8
- 9
- 2
- 5

26) If  $f(x) = (x^2 - x - 6) / (x^2 - 1)$  then what are its asymptotes?

- (-3, 2)
- (1, -1)
- (-1, -1)
- (3, -2)

27) Which of the following justification is correct for the statement  $[x] - [-x] = ?$

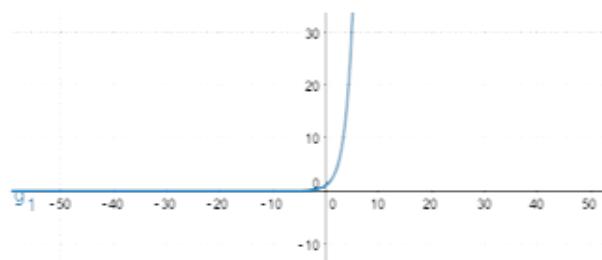
- a)  $2[x] - 1$ , if  $x \notin Z$
- b)  $2[x] - 1$ , if  $x \in Z$
- c)  $2[x]$ , if  $x \in Z$
- d)  $2[x]$ , if  $x \notin Z$



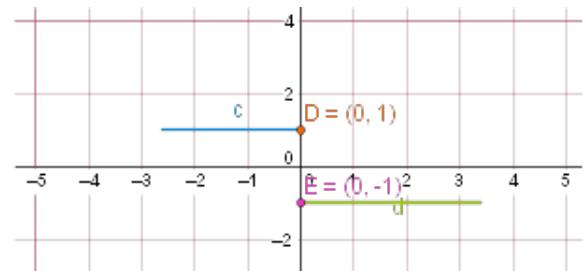
- 1 only
- 2 only
- 1 and 3
- 2 and 4

28) Which of the graph represents signum function

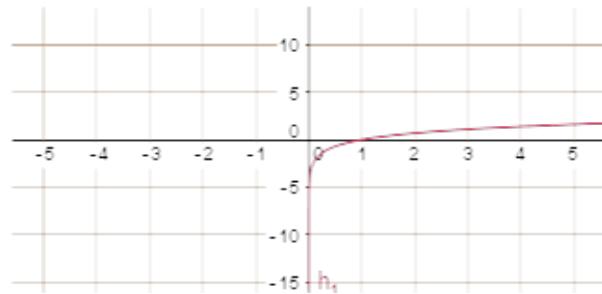
a)



b)



c)



d)



- c
- b
- a
- d

29) Choose the correct graph for



$$f(x) = \begin{cases} 2x - 2, & x < 0 \\ -4x + 16, & x \geq 3 \end{cases}$$

a)



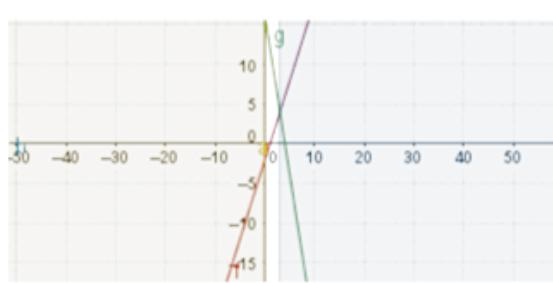
b)



c)



d)



- b
- d
- c
- a

30) Choose the correct graph for the following

$$f(x) = \begin{cases} 3x + 1, & x < 1 \\ 2x, & x \geq 1 \end{cases}$$

- c
- a
- d
- b