1. The slope of the horizontal line _____
   a) Zero
   b) Greater than zero
   c) Undefined
   d) Less than zero
2. which of the following is the solution of equation: $|y-3|=-7$
   a) y= 10 and y= -4
   b) y= 7 and y= 7
   c) y= 3
   d) Does not exist
3. **y** = **f**(−**x**) is its **reflection** about the **y**-axis, **y** = −**f**(**x**) is its **reflection** about
   a) y-axis
   b) x-axis
4. Which of the following is slope of line segment joining the points (2, 5) and (-2,-1)?
   a) $^{7}/_{3}$
   b) $^{\mathbf{6}}/_{\mathbf{4}}$
   c) 3
   d) 0
5. Which of the following is equation of a line that passes through the point (5,-3) and whose slope is -1?
   a) $\boldsymbol{y=-x+3}$ ⟶ $y=-x+8$
   b) $y=-x-2$
   c) $y=x-2$
   d) $y=x+2$
6. $|-7|+|-4|=$
   a) -11
   b) 11
   c) ± 11
   d) *Does not exist*
7. Which of the following is equation of a circle centered at origin and radius 1?
   a) $\boldsymbol{x^2+y^2=1}$
   b) $(x^2)-(y^2)=0$

c) $x + y = 1$

d) $(x^2) + x + 1 = 0$

8. Which of the following is distance between the points (2, 1) and (1, 1)?

a) 1

b) -1

c) Square root of (13)

d) (1,0)

9. Which of the following is slope of a line segment joining the points (4, 3) and (-2, 3)?

a) 0

b) 3

c) 5

d) $^1/_7$

10. Which of the following is solution of equation:

$$|3x + 4| = |2x|$$

a) $x = -4$

b) $x = -4\ and\ x = 3$

c) $x = -4\ and\ x = (-4)/5$

d) Does not exist

11. Which of the following points satisfy the equation $y = 2x - 1$?

a) (2, 4)

b) (1, 3)

c) (-2, 1)

d) (4, 7)

12. Which of the following points satisfy the equation $y = -3x + 2$?

a) (-3, 2)

b) (1, 4)

c) (2, -4)

d) (-1, 4)

13. Which of the following is y-intercept of line represented by equation, 5y = -2x + 16?

a) 2

b) 5

c) 8

d) $\mathbf{^{16}/_{5}}$

14. $let\ f(x) = x - 3\ and\ g(x) = x^3\ then\ (f - g)(x)$

a) $x^3 + x - 3$

b) $\boldsymbol{-x^3 + x - 3}$

c) $-x^3 - x - 3$

d) $-x^3 + x + 3$

15. $let\ f(x) = 2\ and\ g(x) = x^2 + 1\ then\ (f + g)(x)$

a) $x^2 - 3$

b) $2x^2 + 1$

c) $\boldsymbol{x^2 + 3}$

d) $2x^2 - 1$

16. Which of the following is radius of a circle represented by equation: $x^2 + y^2 = 25$?

a) 25

b) 5

c) 1

d) None of these

17. $let\ f(x) = x^2 + 1\ and\ g(x) = 2x\ then\ f\big((g)(x)\big)$?

a) $4x^2 - 1$

b) $\boldsymbol{4x^2 + 1}$

c) $4x^2 + 4$

d) $x^2 + 4$

18. If slope of a line is zero, then ANGLE OF INCLINATION of that line is _____degree.

a) 0

b) 45

c) 90

d) 270

19._____ of domain must have image in the range under defined function.

a) At least one element

b) Each element

c) Not all elements

d) Any number of elements

20. Graph of f(x+c) will be the same as the graph of f(x) by shifting f(x) _____ by c units
    a) Right side
    b) Left side
21. $If\ f(x) = x^2 and\ g(x) = sinx. then\ (gof)x\ is$
    a) $x^2 \sin x$
    b) $(\sin x)\ x^2$
    c) $\sin x$
    d) $\sin x^2$
22. A graph of an equation is the collection of points on xy-plane that _____ the equation.
    a) Satisfy
    b) Does not satisfy
23. Which of the following is midpoint of the line segment joining points (1, 3) and (1, 5)?
    a) (0, -1)
    b) (0, 2)
    c) (2, 8)
    d) (1, 4)
24. Which of the following is x-intercept of a line represented by equation, 2x = -5y + 4?
    a) -5
    b) 2
    c) 4
    d) Not defined
25. $let\ f(x) = x^2 + 1\ and\ g(x) = 2x\ then\ (f + g)(x)$
    a) $x^2 + 2x + 1$
    b) $x^2 + 2x - 1$
    c) $x^2 - 2x + 1$
    d) $x^2 + 2x + 2$
26. Is the graph of equation y = 4x + 3 symmetric about y-axis?
    a) Yes
    b) No
27. The inequality. 6 < -2x < 4 can be simplified to which of the following?

a) -3 > x < -2
b) -3 < x > -2
c) -3 > x > -2
d) -3 < x < -2

28. Which of the following is distance between the points (1,2) and (1,3)?
a) 0
b) 1
c) (0, -1)
d) (2, 5)

29. $|x^2 - 9| =$_____
a) $|(x-3)^2|$
b) $|(x+3)^2|$
c) $|x-3||x+3|$
d) $|x+3||x+3|$

30. Is the graph of equation 4y = 3x symmetric about y-axis?
a) Yes
b) No

31. If the slope of a line is undefined then that line _____?
a) Parallel to x-axis
b) Parallel to y-axis

32. Which of the following is natural domain of the function defined by, f(x) = x+2?
a) $(-\infty, 2)$
b) $(2, \infty)$
c) $(-\infty, 2) U (2, \infty)$
d) $(-\infty, \infty)$

33. Graph the equation $y = x^2 - 9x + 5$ is represents a ……
a) Ellipse
b) Circle
c) Parabola
d) None of these

34. Which of the following is equation of a line whose slope is -4 and y-intercept is 2?

a) $-4y = x + 2$

b) $\boldsymbol{Y = -4x + 2}$

c) $Y = 2x - 4$

d) $2y = x - 4$

35. The inequality $L - e < f(x) < L + e$ can b written as

a) $|f(x) - e| < L$

b) $|f(x) - L| > e$

c) $\boldsymbol{|f(x) - L| < e}$

d) $|f(x) - e| > L$

36. $Let\ f(x) = x - 3 and\ g(x) = 2x\ then\ (f - g)(x) =?$

a) $x - 3$

b) $-x + 3$

c) $\boldsymbol{-x - 3}$

d) $-3x - 3$

37. Graphs of y = f(x) and y = f(-x) are reflection of one another about

a) Y-axis

b) X-axis

38. $Let\ f(x) = 2\ and\ g(x) = x^2 + 1\ then\ (f.g)(x) =?$

a) $\boldsymbol{2(x^2 + 1)}$

b) $2(x^2 - 1)$

c) $2x^2 + 1$

d) $x^2 + 2$

39. $Let\ f(x) = \frac{3}{x}, which\ of\ the\ following\ is\ domain\ of\ f(x)?$

a) $(-\infty, 0)$

b) $(0,\infty)$

c) $(-\infty, \infty)$

d) $\boldsymbol{(-\infty, 0)U(0, \infty)}$

40. If slope of a line is zero then that line is _____.

a) Parallel to x-axis

b) Parallel to y-axis

41. $Let\ f(x) = x + 5, g(x) = x^2 - 3. Find\ f((g)(x))$.

a) $x^2 - 3$

b) $x^2 + 3$

c) $x^2 - 2$

d) $x^2 + 2$

42. $Let\ f(x) = x - 3, g(x) = x^3. Find\ f\big((g)(x)\big)$.

a) $x^3 + 3$

b) $-x^3 - 3$

c) $x^3 - 3$

d) $-x^3 + 3$

43. Which of the following is solution of an inequality: $|x + 3| > 2$

a) $x < -5 or\ x > -1$

b) $x > -5 or\ x < -1$

c) $x > -5 or\ x > -1$

d) $x < -5 or\ x < -1$

44. $Let\ f(x) = x + 5, g(x) = x\text{^}2 - 3. Find\ (f + g)(x)$.

a) $x^2 + x - 2$

b) $x^2 + x + 2$

c) $x^2 - x + 2$

d) $x^2 - x - 2$

45. $Let\ f(x) = \frac{x+1}{x-1}\ then\ f(1)$

a) 0

b) 1

c) 2

d) Not defined