



6) Find an equation for the line passing through the point  and perpendicular to the line

a)

b)

c)

d)

e) None of these

7) Find an equation for the line passing through the point  and parallel to the line

a)

b)

c)

d)

e) None of these

8) A business had annual retail sales of \$110,000 in 1993 and \$224,000 in 1996. Assuming that the annual increase in sales followed a linear pattern, what was the retail sales in 1995

a) \$182,000

b) \$195,000

c) \$188,000

d) \$186,000

e) None of these

9) Find an equation of a horizontal line that passes through the point

a)

b)

c)

d)

e) None of these

10) Write an equation satisfied by the graph obtained by shifting  three units to the left

a)

b)

c)

d)

e) None of these

11) Find the domain of

a)

b)

c)

d)

e) None of these

12) Find  for

a)

b)

c)

d) 5

e) None of these

13) If  and , find

a)

b)

c)

d)

e) None of these

14) If the point  lies on the graph of the equation , find the value of  $k$ .

a) 7

b) 3

c) 5

d) -3

e) None of these

15) Which of the following equations expresses  $y$  as a function of  $x$ ?

a)

b)

c) Both  $a$  and  $b$

d) Neither  $a$  nor  $b$

e)

16) Determine which function is neither even nor odd.

a)

b)

c)

d)

e) Both  $a$  and  $b$

17) Determine the even function.

a)

b)

c)

d)

e) None of these



24) Let . Calculate .

a) ,

b) ,

c) ,

d) ,

e) None of these

25) Let . Calculate .

a)

b)

c)

d)

e) None of these

26) Solve for  $x$ :

a)

b)

c)

d)

e) None of these

27) Solve for  $x$ :

a)

b)

c)

d)

e) None of these

28) Given  $y = \arcsin \frac{1}{x}$ , find  $\cot y$

a)  $\sqrt{1-x^2}$

b)  $x$

c)  $\sqrt{x^2-1}$

d)  $\frac{1}{\sqrt{1-x^2}}$

e) None of these

29) Given  $y = \arctan \frac{1}{x}$ , find  $\cos y$

a)  $\frac{x}{\sqrt{1+x^2}}$

b)  $\frac{x}{1+x^2}$

c)  $\frac{1}{\sqrt{1+x^2}}$

d)  $x$

e) None of these

30) Find the zero(s) of the function  $f(x) = \frac{1}{x-3} + \frac{1}{x-4}$

a) 3 and 4

b) 0

c)  $\frac{7}{2}$

d)  $\frac{2}{7}$

e) None of these

31) Given  $f(x) = |3x+1| - 5$ , find  $f(x+1) - f(x)$

a) 3

b) -5

c)  $|3x+4| - |3x+1| - 10$

d)

e) None of these

32) Find  $\frac{f(x+\Delta x) - f(x)}{\Delta x}$  for  $f(x) = 8x^2 + 1$

a)  $8(\Delta x)^2 + 1$

b)  $8\Delta x + \frac{1}{\Delta x}$

c)  $16x + 8\Delta x$

d)  $16x(\Delta x) + 8(\Delta x)^2$

e) None of these

33) Determine the odd function

a)  $f(x) = x^5 + x^3 + x + 1$

b)  $f(x) = \frac{x^3}{x^2+1}$

c)  $f(x) = 3x^2 + 5x - 1$

d)  $f(x) = \cos x$

e) None of these

34) Find the point that does **not** lie on the line determined by points  $(-5, 2)$  and  $(1, -3)$

a)  $(0, -4)$

b)  $(7, -8)$

c)  $(-11, 7)$

d)  $(-2, -\frac{1}{2})$

e)  $(13, -13)$

35) Find the equation of the line that passes through the point  $(4, 2)$  and is perpendicular to the line that passes through the points  and

a)

b)

c)

d)

e) None of these

36) An open box is to be made from a rectangular piece of material 9 inches by 12 inches by cutting equal squares from each corner and turning up the sides. Let  $x$  be the length of each side of the square cut out of each corner. Write the volume  $V$  of the box as a function of  $x$ .

a)

b)

c)

d)

e) None of these

37) If  and , find

a)  $-0.48$

b)  $0.842$

c)  $5.61$

d)  $0.48$

e) None of these

38) Use a graphing utility to graph the function  and use the graph to state the domain of  $f$ .

a)

b)

c)

d)

e) None of these

39) Find the value of

- a) 46.7332
- d) 0.8156

- b) 1.0939
- e) None of these

c) Does not exist