

NO CALCULATORS !

1) Find the domain of the function

$f(x) = \sqrt{x-3}$ _____

2) Find the domain of the function

$f(x) = \sqrt{x}-3$ _____

3) For what value of x is the function

$y = \frac{17}{3-x}$ undefined? _____

4) What is the y-intercept of the graph of

the function $y = \frac{13+2x}{x-7}$? _____

5) True or False? $-3^2 = |-3^2|$ _____

6) Find the value of $4^{\frac{3}{2}}$ _____

7) True or False? $25^{-\frac{1}{2}} = -5$ _____

8) If $f(x) = x^2 - 7x + 12$, find $f(-5)$. _____

9) Find the domain of the function

$y = \frac{1}{\sqrt{x+5}}$. _____

10) For what values of x is the function

$f(x) = \frac{x}{x^2-1}$ undefined? _____

11) At what point, besides the origin, do the graphs of $y = x^2$ and $y = x^3$ intersect? _____

12) Find the domain of the function

$f(x) = \frac{x^2+7}{x^2+25}$ _____

13) Find the domain of the function

$f(x) = \frac{x^2-2}{x^2-25}$ _____

14) $\sin(7\pi/6) =$ _____

15) True or False? $y = -\sin x$ is a reflection of the sine graph about the x-axis. _____

16) For what value of x is the function

$f(x) = \frac{6x}{\sin x}$ undefined in the interval $[\pi/2, 3\pi/2]$? _____

17) Find the domain of the function

$f(x) = \sqrt{9-x^2}$ _____

18) $\cos(3\pi/2) =$ _____

19) On what interval is the function

$f(x) = \sqrt{9-x^2}$ defined? _____

20) Find the x-intercept of the function

$f(x) = \frac{x+7}{x^2-6x+8}$ _____

21) Find the slope of the line whose equation is $6x + 3y = 11$. _____

22) Find the slope of the line that goes through (7, 2) and (-1, 0) _____

33) At how many points do the graphs of $y = 3x^3 + 1$ and $y = 3x^3 + 6$ intersect? _____

23) $\tan(3\pi/4) =$ _____

34) Write the equation of the line with slope 7 that passes through the point (6, -2). _____

24) Find the value of $(-8)^{1/3}$ _____

35) Simplify: $\frac{(x^6)^4}{x^2}$ _____

25) Multiple Choice.
What is the value of $-4^{1/2}$?
A. -2 B. DNE C. 2 D. -1/2 _____

36) If $f(x) = \frac{x^3 - x}{x^2 + 1}$, find $f(3)$. _____

26) True or False? Given that $y = 1/x$, if $x > 100$, $y < .01$ _____

37) Find $f(-3)$ for the function above. _____

27) Multiple Choice. How does the graph of $f(x) - 7$ compare to the graph of $f(x)$?
A. slide 7 units up B. slide 7 units left
C. slide 7 units down D. slide 7 units right _____

38) Is the function referred to above an even function, an odd function, or neither? _____

28) $\csc(2\pi/3) =$ _____

39) $\sec(2\pi/3)$ _____

29) $\sin(-3\pi/2)$ _____

40) If the graph of $f(x) = x^2$ is shifted two units to the right to form $g(x)$, what would be the equation of $g(x)$? _____

30) Find the inverse of the function $f(x) = x^2 + 5$, where $x \geq 0$ _____

41) Write the equation of the line through the point (-9, 2) that is parallel to $2x - 5y = 16$ _____

31) Find the y-intercept of the graph of $y = e^x + 5$ _____

42) Simplify: $(x - 2y)^2 - (xy^2 - y^2)$ _____

32) True or False? If f and g are nonzero functions, then $f(g(x)) = g(f(x))$. _____

43) $\sin(\pi/2)$ _____

44) $\cos(3\pi/4)$ _____

45) $\tan(-\pi/4)$ _____

46) $\sec(\pi/3)$ _____

47) Simplify:
 $\frac{(2x^2)^3}{x^{10}}$ _____

On # 48-51, Solve for x, when $0 \leq x < 2\pi$

48) $\cos x = 0$ _____

49) $\sin x = -1/2$ _____

50) $\sec x = 2$ _____

51) $\tan x = 1$ _____

52) Find the domain of $y = \frac{3x}{x^2 - 5x}$ _____

53) $\tan(5\pi/4)$ _____

54) $\cos(-\pi)$ _____

55) $\csc(\pi)$ _____

56) $\sin(-5\pi/3)$ _____

On #57-59, solve for x when $0 \leq x < 2\pi$.

57) $\sin x = \frac{\sqrt{2}}{2}$ _____

58) $\cos x = \frac{\sqrt{3}}{2}$ _____

59) $\csc x = -1$ _____

60) What is the domain of $y = \tan x$? _____

61) Write the equation of the line through (9, -4) and (-1, 5) _____

62) Given $f(x) = x^2 + 2$, find $f(-2)$ _____

63) Using $f(x)$ from #62, find $f(x+2)$ _____

64) Using $f(x)$ from #62, find $f(x+h)$ _____

65) Using $f(x)$ from #62, find
 $\frac{f(x+h) - f(x)}{h}$ _____