

Precalculus Review

Graph the following:

1) $y = x^2$

2) $y = |x|$

3) $y = \sqrt{x}$

4) $y = \sin x$

5) $y = \cos x$

6) $y = \tan x$

7) $y = \sin^{-1} x$

8) $y = \frac{1}{x}$

9) $y = e^x$

10) $y = \log x$

11) $y = \llbracket x \rrbracket = \lfloor x \rfloor =$ the greatest integer less than or equal to x .

12) $y = \sqrt{x} + 2$

13) $y = \sqrt{x + 2}$

14) $y = \sqrt{4x}$

15) $y = 4\sqrt{x}$

16) $y = -\sqrt{x}$

17) $y = \sqrt{-x}$

18) What is the domain of the function $f(x) = e^x$?

19) What is the range of the function $f(x) = e^x$?

20) What is the domain of the function $f(x) = \log x$?

21) What is the range of the function $f(x) = \log x$?

22) What is the domain of the function $f(x) = \sqrt{x}$?

23) What is the range of the function $f(x) = \sqrt{x}$?

24) What is the domain of the function $f(x) = \sin x$?

25) What is the range of the function $f(x) = \sin x$?

26) Find the slope between the points $(2, -4)$ and $(-1, 1)$

27) Find the slope between the points $(2, -4)$ and (x, y)

28) Find the equation of the line containing the point $(2, -4)$ with slope $= 2$.

29) Find the equation of the line containing the points $(2, -4)$ and $(-1, 1)$

30) Find the equation of the line with slope $= 2$ and y-intercept $= 4$.

31) Find the equation of the line with x-intercept $= 3$ and y-intercept $= 4$.

32) Find the equation of the line containing the point $(2, -4)$ parallel to the line $y = 2x + \pi$

33) Find the equation of the line containing the point $(2, -4)$ perpendicular to the line $y = -\frac{1}{2}x + 4$

34) $\sqrt{x^2} =$

35) Simplify $\frac{3\sqrt{5} - 2\sqrt{2}}{\sqrt{5} + \sqrt{2}}$

36) Simplify $\frac{x^2 + x - 6}{x - 2}$

37) Write out rows 0-7 of Pascal's Triangle.

38) Expand $(x - y)^2$

39) Expand $(x + y)^3$

40) Expand $(x - 2)^3$

41) Expand $(x + y)^7$

$$42) d^m \cdot d^n =$$

$$43) \frac{d^m}{d^n} =$$

$$44) d^1 =$$

$$45) d^0 =$$

$$46) (d^m)^n =$$

$$47) \text{ Rewrite } y = \log_b x \text{ in exponential form.}$$

$$48) \log_b x + \log_b z =$$

$$49) \log_b x - \log_b z =$$

$$50) \log_b b =$$

$$51) \log_b 1 =$$

$$52) \log_b x^y =$$