

Math II NCFE REVIEW ONE

1. Write the equation for the inverse function: $f(x) = -\frac{2}{3}x - 6$

2. Solve the equation for h : $A = \frac{1}{3}\pi r^2 h$

3. Simplify: $\sqrt[3]{125x^9y^3}$

4. Formula for finding the volume of a cylinder is $V = \pi r^2 h$. If the volume of a cylinder with a height of 3 inches is $147\pi \text{ in.}^3$, what is the radius of this cylinder?

5. Determine exponential growth or decay: $f(x) = 4^{x-1} + 5$

6. Determine exponential growth or decay: $f(x) = 4\left(\frac{3}{2}\right)^x - 1$

7. Find the y-intercept: $f(x) = 4\left(\frac{3}{2}\right)^x - 1$

8. Find the y-intercept: $f(x) = 4^{x-1} + 5$

9. Write in exponential form: $\log_2 32 = 5$

10. Write in exponential form: $\log_5 \frac{1}{125} = -3$

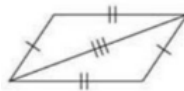
11. Write in logarithmic form: $7^{-2} = \frac{1}{49}$

12. Write in logarithmic form: $3^4 = 81$

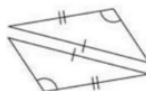
13. Evaluate the logarithm: $\log_6 216$

14. Evaluate the logarithm: $\log_{64} 4$

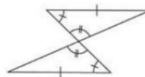
15. Determine if two triangles can be proven congruent:



16. Determine if two triangles can be proven congruent:



17. Determine if two triangles can be proven congruent:



18. What are the transformations from the parent function? $f(x) = 3^x$; $g(x) = 3^{x+4} - 11$

19. What are the transformations from the parent function? $f(x) = x^2$; $g(x) = (x + 2)^2 - 9$

20. What are the transformations from the parent function? $f(x) = \sqrt{x}$; $g(x) = -\sqrt{x-7} + 1$

21. What is the equation of the horizontal asymptote? $f(x) = 4\left(\frac{3}{2}\right)^x - 1$
22. What is the equation of the horizontal asymptote? $f(x) = 4^{x-1} + 5$
23. What is the equation of the vertical asymptote? $f(x) = \log_2(x - 8)$
24. What is the equation of the vertical asymptote? $f(x) = \log_5(x + 7)$
25. Write the expression that represents the area of a rectangle with a length $(2x - 1)$ and a width of $(x + 3)$.
26. Write the expression that represents the area of a triangle with a height of $(x + 4)$ and a base length of $(x - 6)$.
27. Write the expression that represents the perimeter of a square with a side length of $4x + 3$.
28. Simplify: $-(5x + 11) - 4(2 - x)$
29. Simplify: $14(7x - 1) - 5(3x + 4) + 9$
30. In how many ways can 9 people sit next to one another in a movie theater row?
31. Factor: $x^2 + 11x - 26$
32. Factor: $4x^2 - 121$
33. A circle has a diameter of 10 inches. What is the area of this circle, rounded to the nearest tenth.
34. A circle has an area of 49π . What is the length of the diameter of this circle?
35. Identify maximum or minimum value of quadratic: $f(x) = -4x^2 - 8x + 3$