

Math II Spiral Review 2

1. What is the equation for the horizontal asymptote of the exponential function:

$$f(x) = 3^{x+1} - 8$$

2. Solve the logarithmic equation for the value of m : $\log_2(17 - 3m) = 7$

3. Simplify: $5(3 - 2x) - 4(3x + 7)$

4. Solve the literal equation for f : $T = \frac{1}{2}fm^3$

5. Simplify completely: $\left(\frac{169x^{16}}{9y^4}\right)^{\frac{1}{2}}$

6. Identify, in bulleted form, the transformations from the parent function $f(x) = \sqrt{x}$

$$f(x) = -\sqrt{x+5} - 2$$

7. Give a possible value of g to show a function that represents exponential decay:

$$f(x) = \left(\frac{2}{g}\right)^x + 4$$

8. Give a possible value of k to show a function that represents exponential growth:

$$f(x) = \left(\frac{k}{5}\right)^{x+1}$$

9. Solve for the value of x : $16^{2x+1} = 8^x$

10. The maximum load that a cylindrical column with a circular cross section can hold varies directly as the fourth power of the diameter and inversely as the square of the height. A 9 meter column 2 meters in diameter will support 64 metric tons. How many metric tons can be supported by a column 9 meters high and 3 meters in diameter?