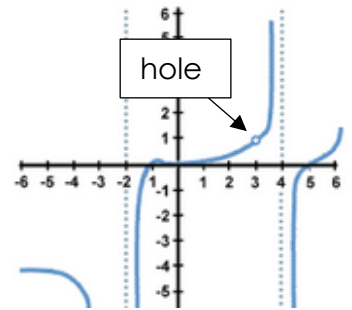


1. Factor:  $8x^2yz^3 - 4xy^5z + 20x^3y^2z$

2. Solve  $x^3 - 5x = 0$  and classify the solutions.

3. Solve  $3(x - 5)^{\frac{1}{3}} = -9$

4. Find the domain and the range of the function



5. Describe the transformations of:

$$f(x) = \frac{1}{2}\sqrt[3]{-3(x+4)}$$

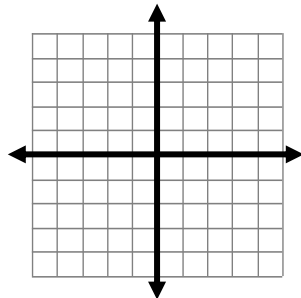
6. Condense:  $3\log x + \log 4 - \log x - \frac{1}{2}\log 6$

7. Determine the range of:  $f(x) = -\left(\frac{2}{3}\right)^x - 3$

8. Solve:  $\log_2(x+2) + \log_2 3 = \log_2 27$

9. Graph

$$f(x) = \frac{1}{2}|x+3| - 1$$

10. Find the sum of the first 12 terms of the geometric sequence if  $a_1 = 10$  and  $r = \frac{1}{2}$ .