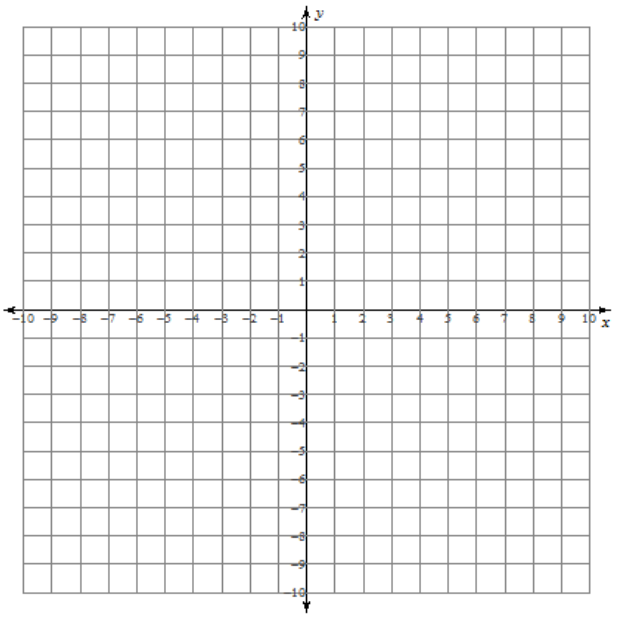
Pre-Calculus 120 B

Function Toolkit #1

Use the Function Toolkit to sketch a graph of each of the following functions on the grids provided. Show all work, calculations, and tables where appropriate. State the domain, range, x- and y-intercepts when requested.

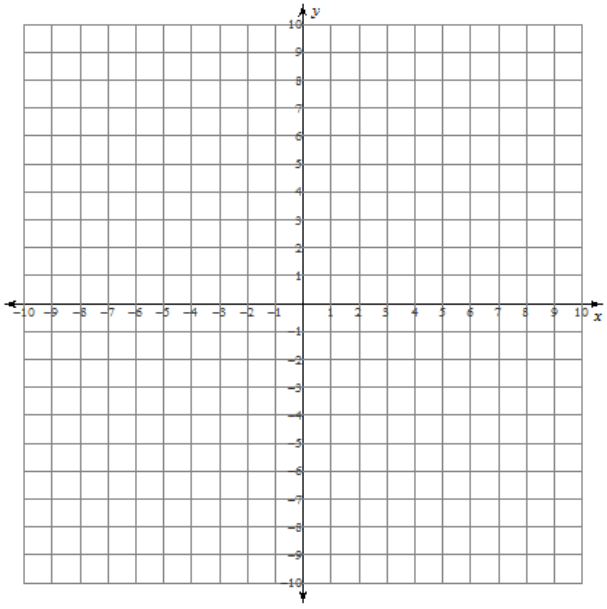
1. $y = -\frac{1}{2}(x+4)^2 + 3$



Domain: _____

Range: _____

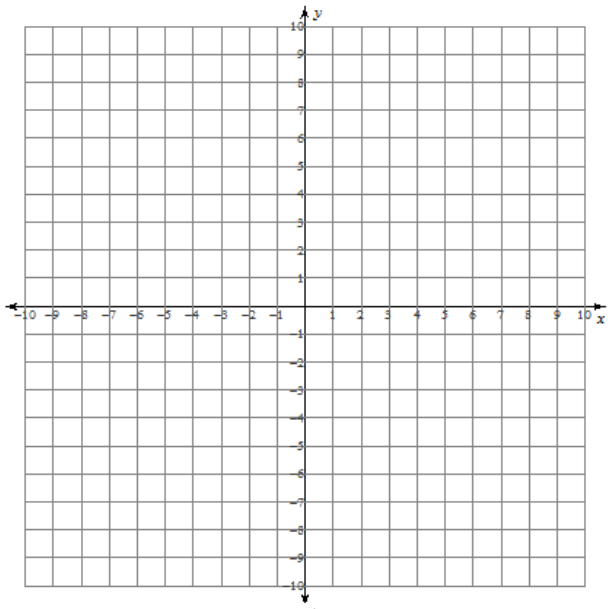
2. $y = 3|x-2| - 4$



Domain: _____

Range: _____

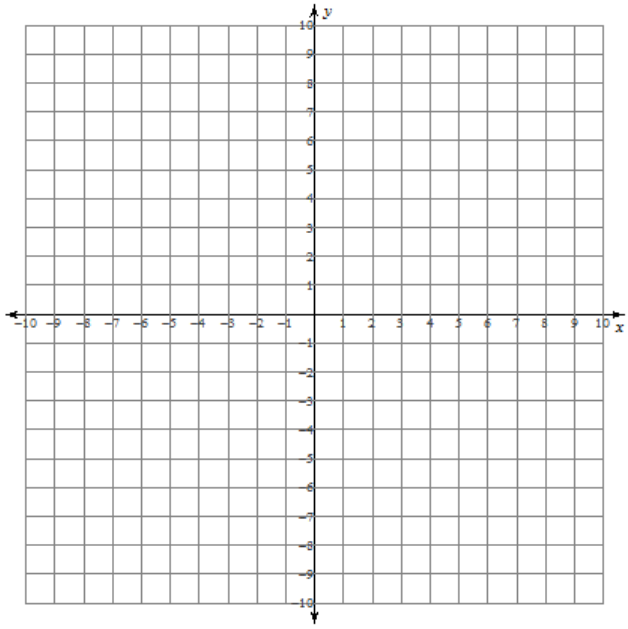
3. $y = e^{x+2} - 6$



Domain: _____

Range: _____

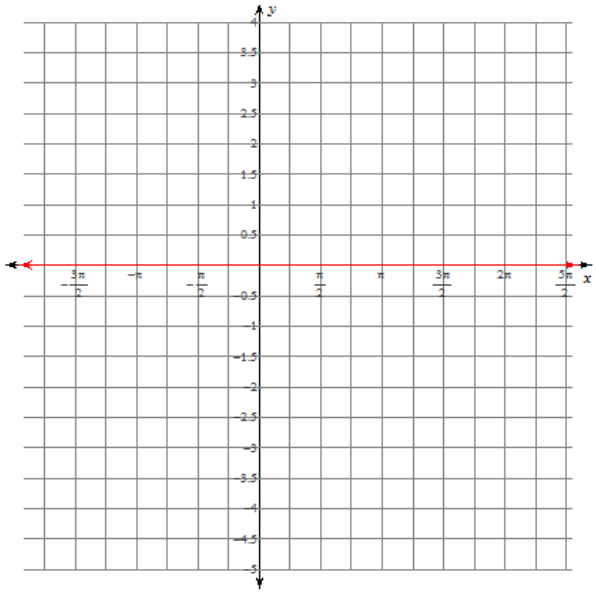
4. $y = -3\sqrt{x+6} + 5$



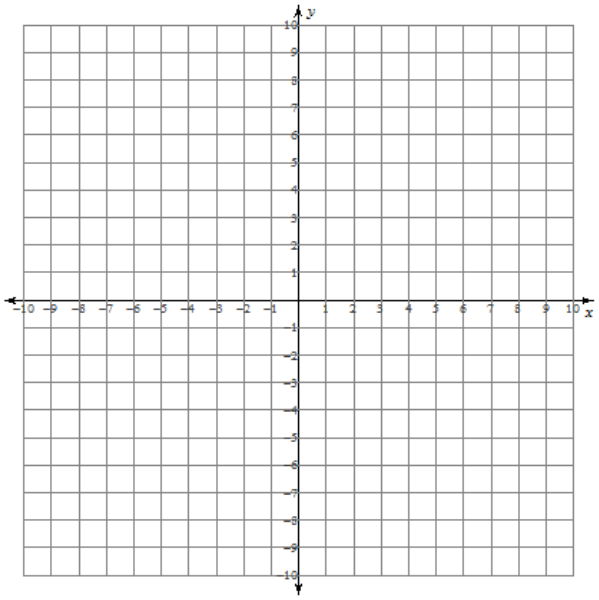
Domain: _____

Range: _____

5. $y = 2\sin\left(\frac{4}{3}\left(x - \frac{\pi}{4}\right)\right) - 1$



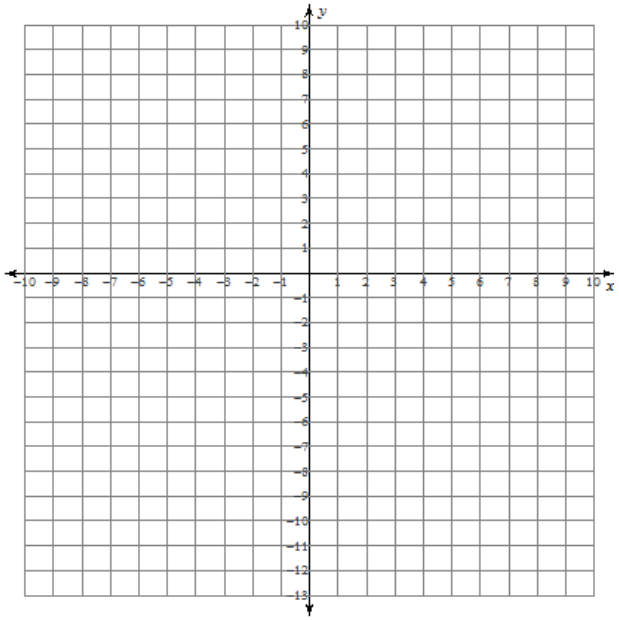
6. $y = -x^3 - x^2 + 5x - 3$



x-intercepts: _____

y-intercept: _____

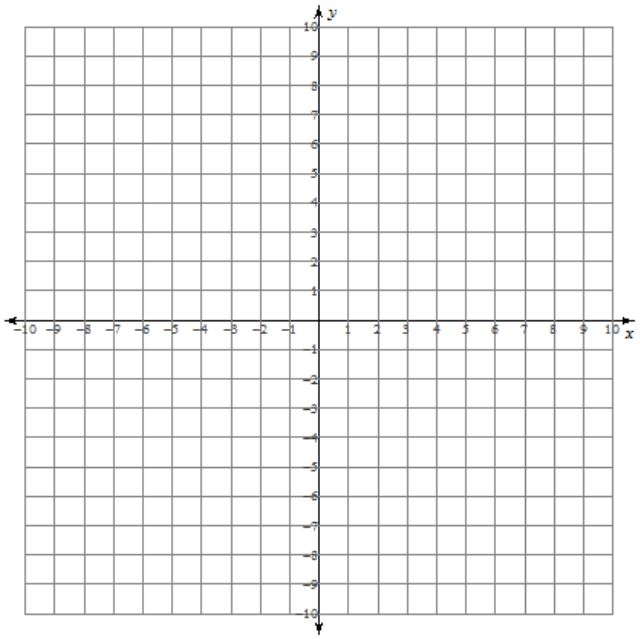
7. $y = (x+3)(x-2)(x^2-1)$



x-intercepts: _____

y-intercept: _____

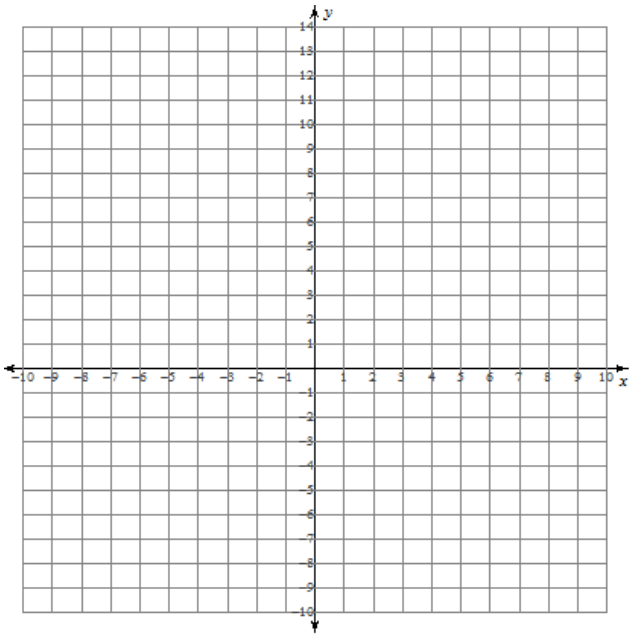
8. $y = \left(\frac{1}{2}\right)^{(x+4)} - 3$



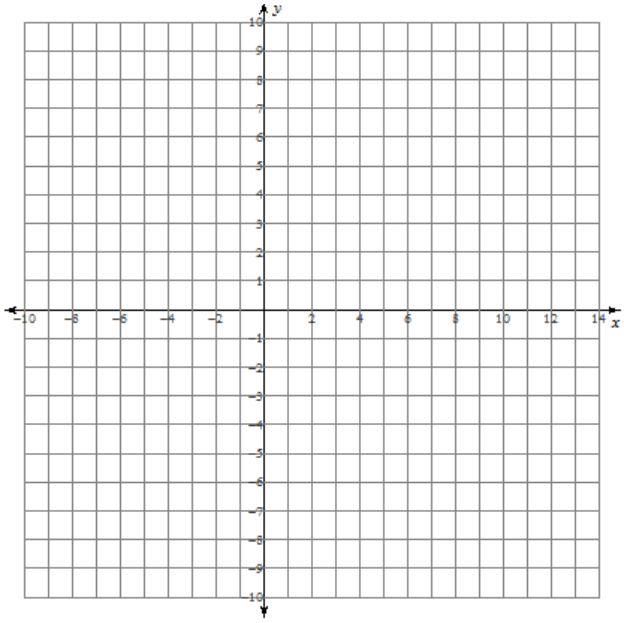
x-intercept: _____

y-intercept: _____

9. $y = (x-3)^3 + 5$



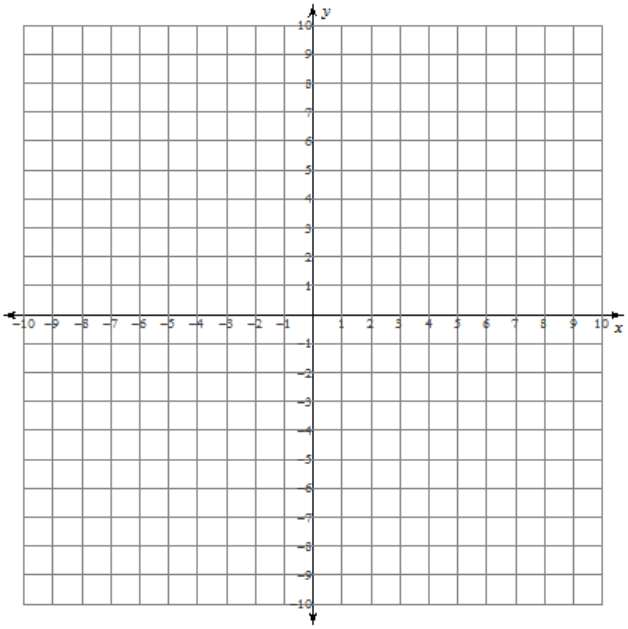
10. $y = \log_{10}(x-3) - 4$



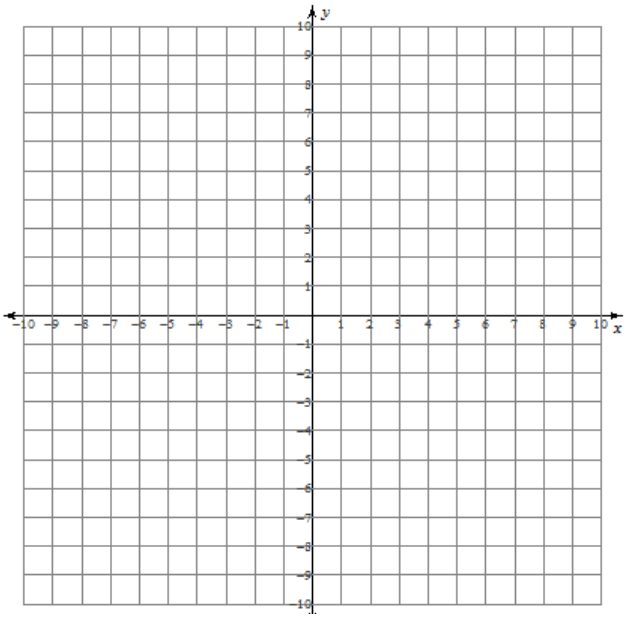
Domain: _____

Range: _____

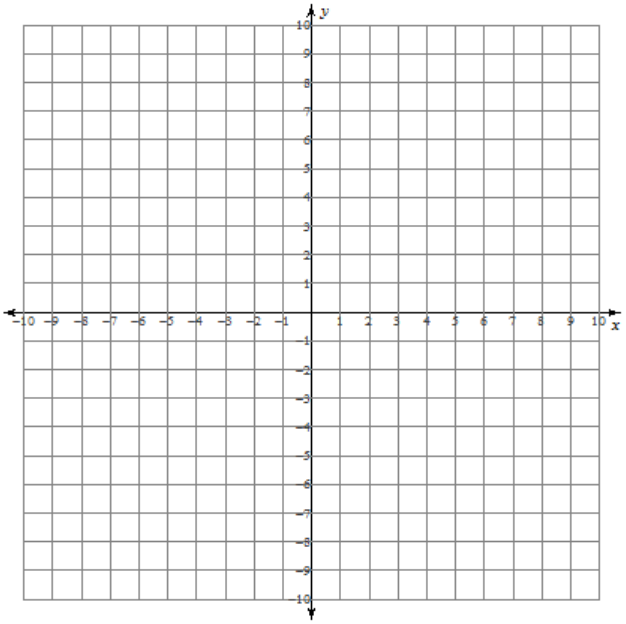
11. $y = \dfrac{2x^2 + 2x - 4}{x^2 - x - 12}$



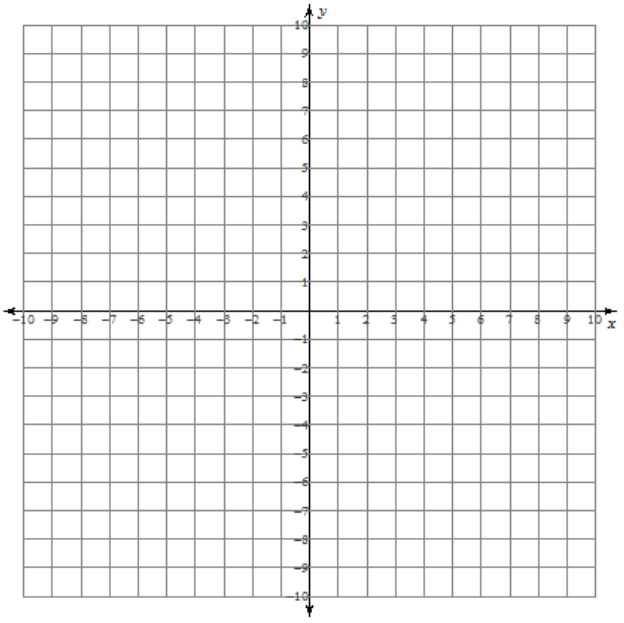
12. $y = \ln(x + 5) + 3$



13. $y = \dfrac{1}{(x+3)^2} - 2$



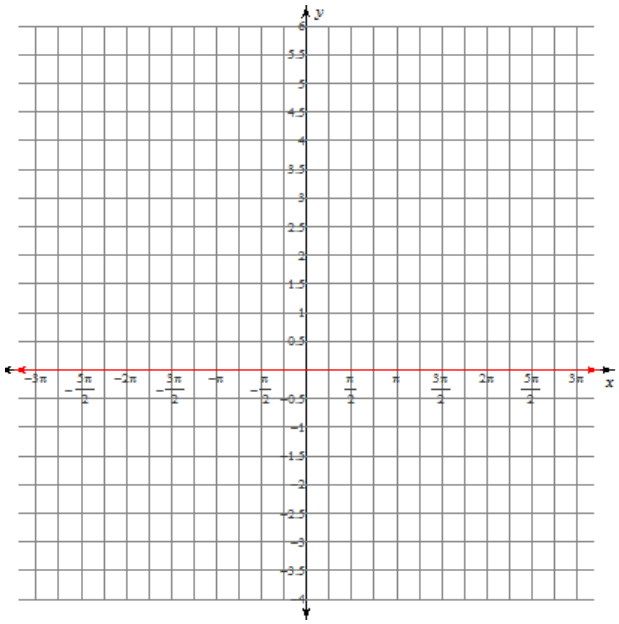
14. $y = \dfrac{4}{x+2} + 3$



x-intercept: _____

y-intercept: _____

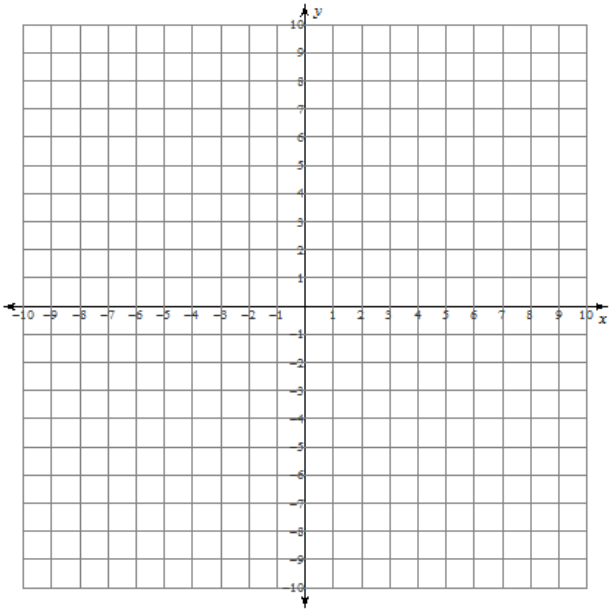
15. $y = -2\cos\left(\frac{1}{2}x\right)+1$



Domain:_____

Range: _____

16. $y = 3^{0.5x-1}+1$



x-intercept: _____

y-intercept: _____