

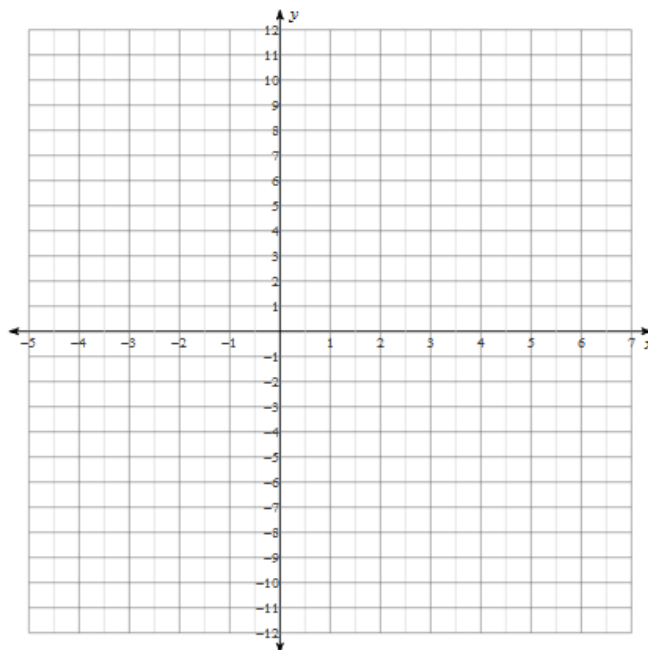
# Function Toolkit #2 – Composition of Functions

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

1)  $y = |x^3 - 6x^2 + 3x + 10|$

x-intercepts: \_\_\_\_\_

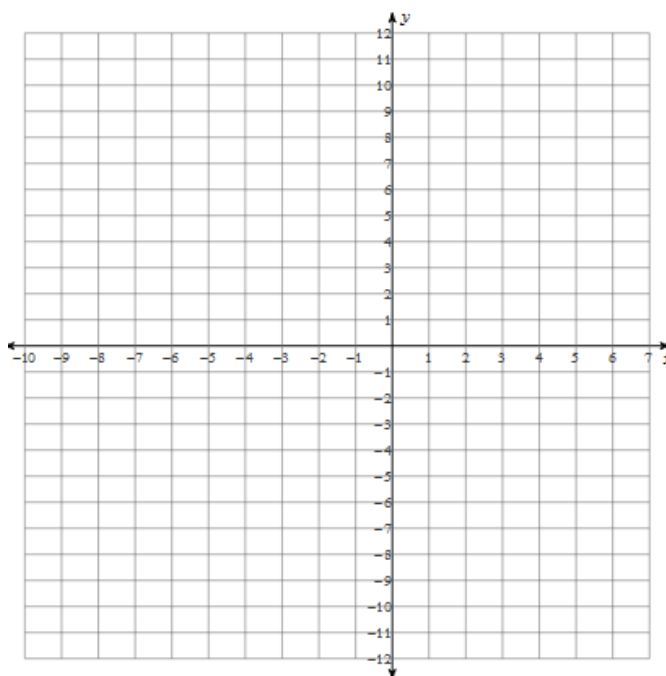
y-intercept: \_\_\_\_\_



2)  $f(x) = \left| \frac{2}{x+5} + 3 \right|$

domain: \_\_\_\_\_

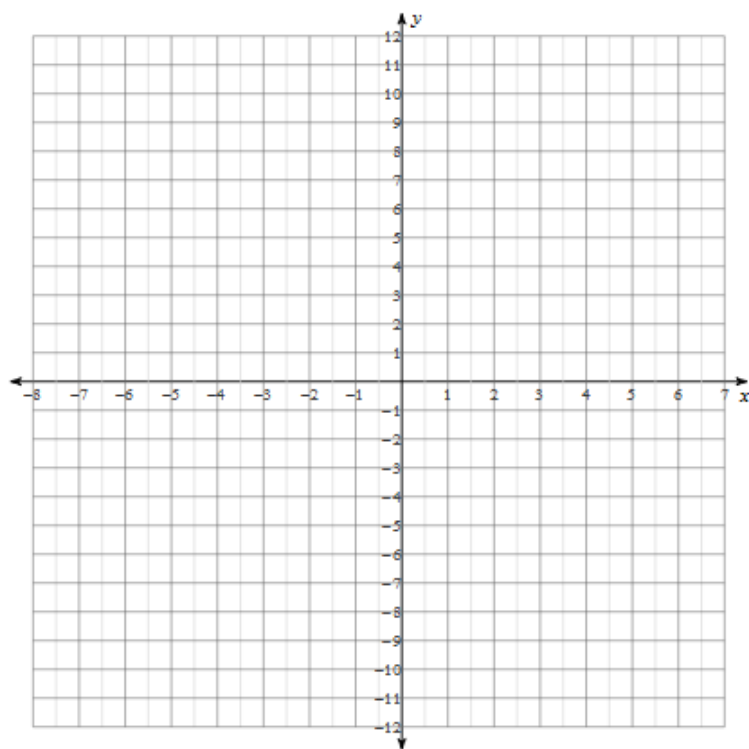
range: \_\_\_\_\_



3)  $f(x) = |2^x - 3| - 2$

domain: \_\_\_\_\_

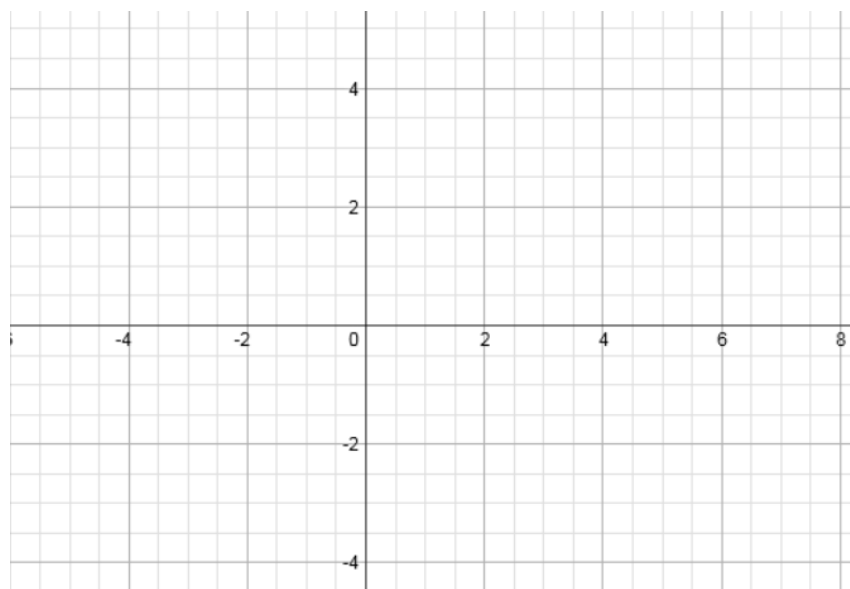
range: \_\_\_\_\_



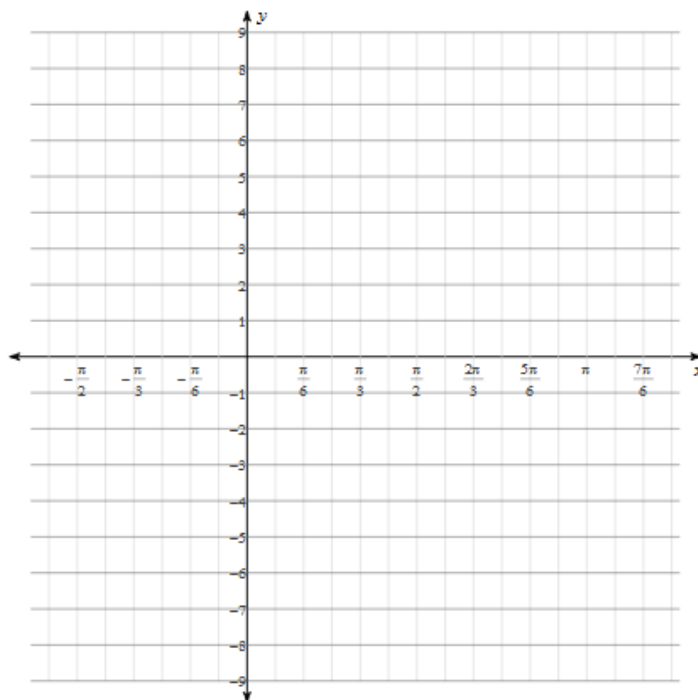
4)  $f(x) = |\log_6(x-3) + 1|$

x-intercept: \_\_\_\_\_

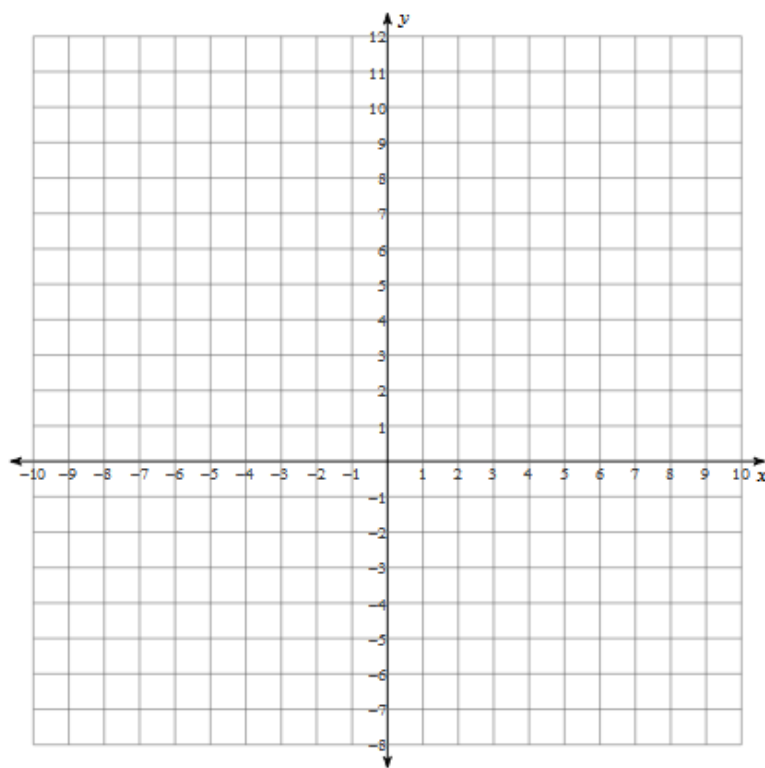
y-intercept: \_\_\_\_\_



5)  $f(x) = |4\sin 2x|$



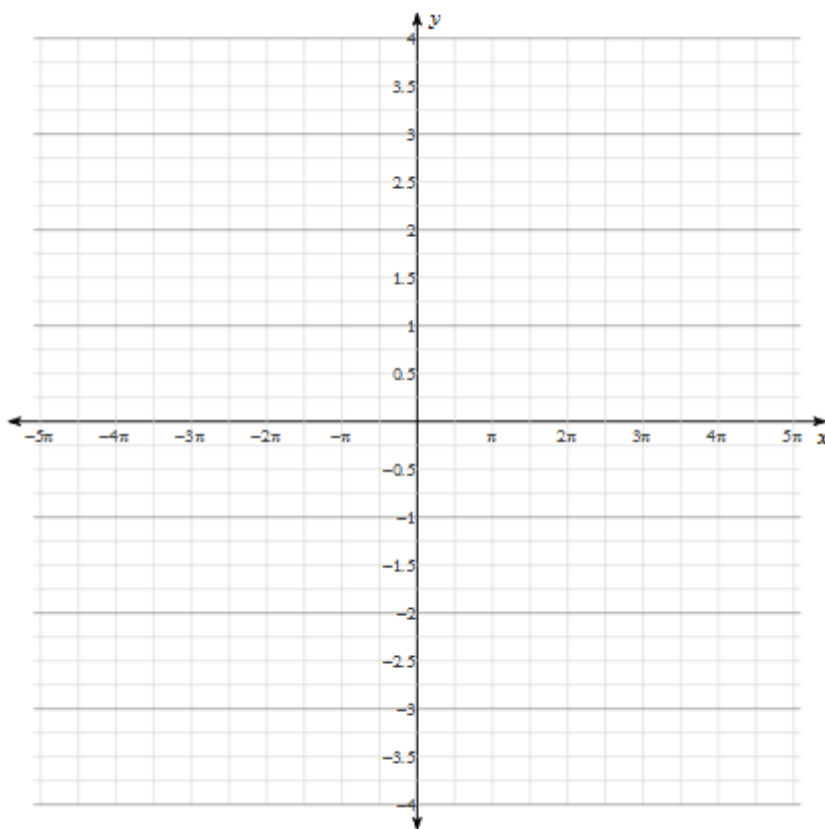
6)  $y = \sqrt{10 - 2x - x^2}$



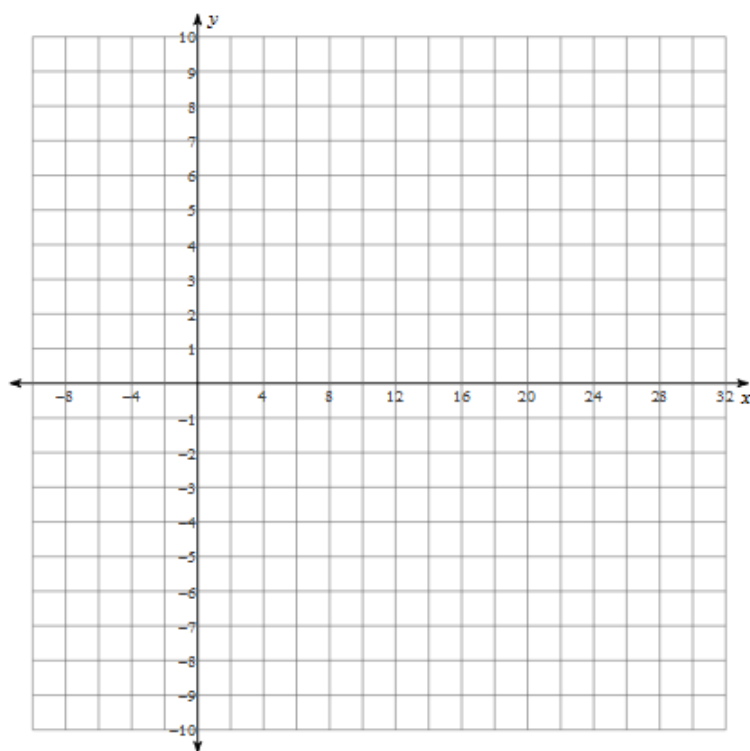
x-intercepts: \_\_\_\_\_

y-intercept: \_\_\_\_\_

7)  $y = \sqrt{\cos\left(\frac{1}{2}x\right)} - 1$



8)  $f(x) = (3 - \sqrt{x-4})^2$



x-intercept: \_\_\_\_\_

y-intercept: \_\_\_\_\_