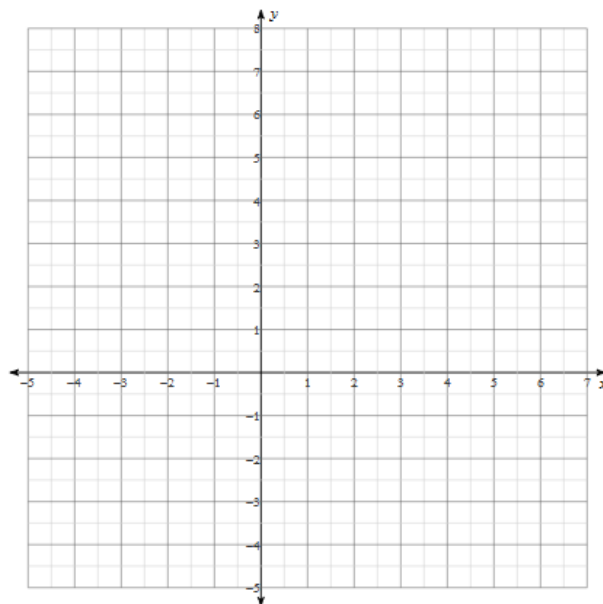


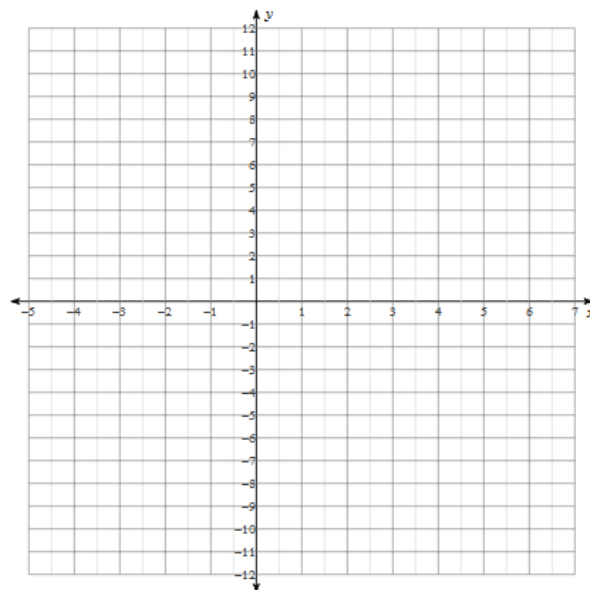
# Function Toolkit #2 – Composition of Functions

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



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



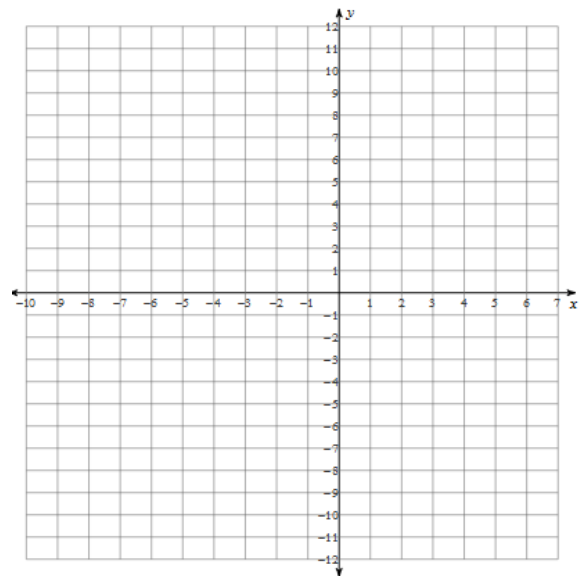
x-intercepts: \_\_\_\_\_

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

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

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

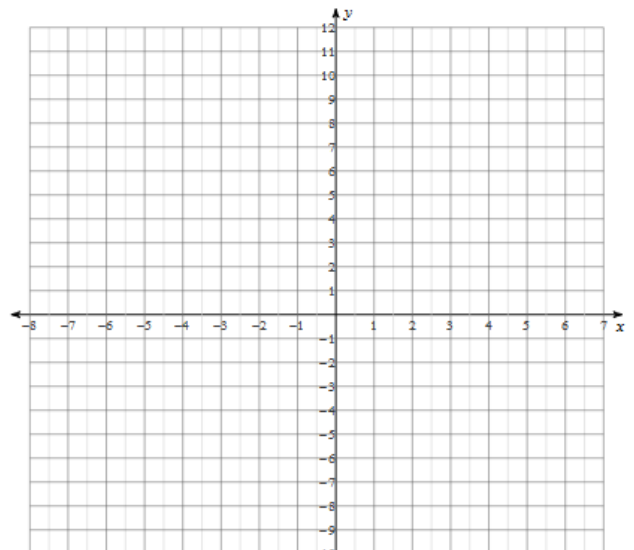
range: \_\_\_\_\_



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

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

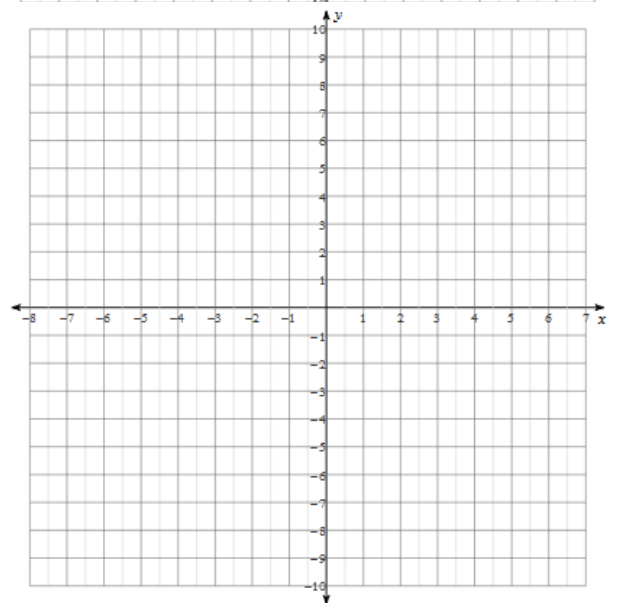
range: \_\_\_\_\_



5)  $y = |\sqrt{2x+4} - 3|$

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

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

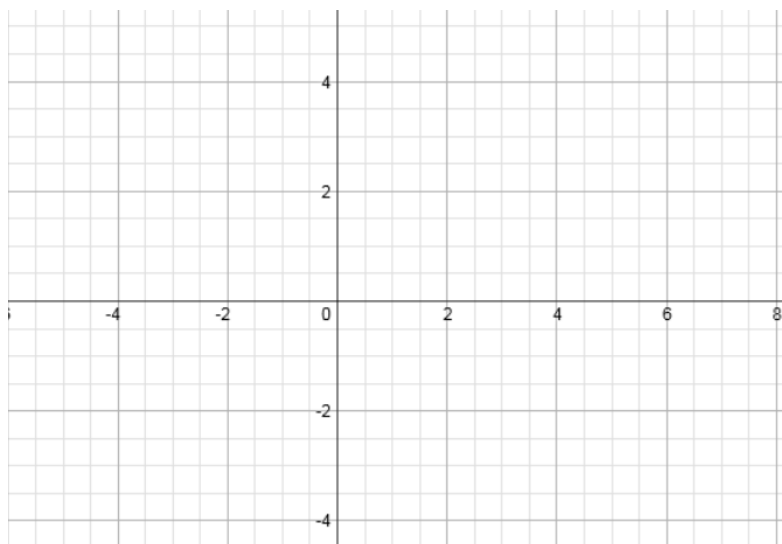


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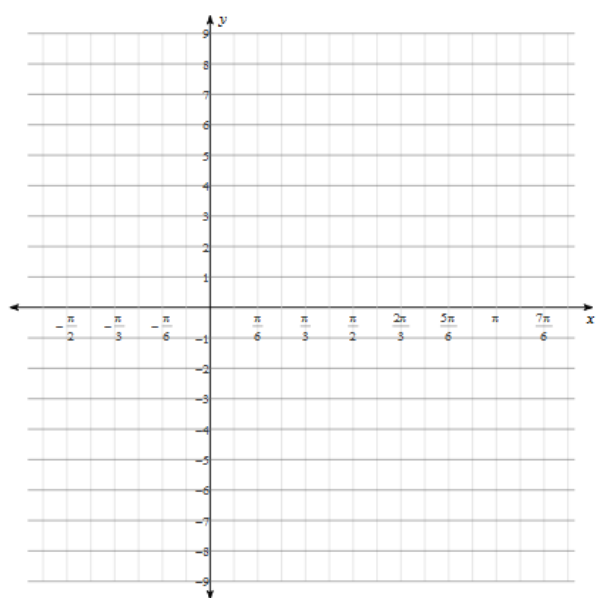
6)  $f(x) = |\log_6(x-3) + 1|$

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

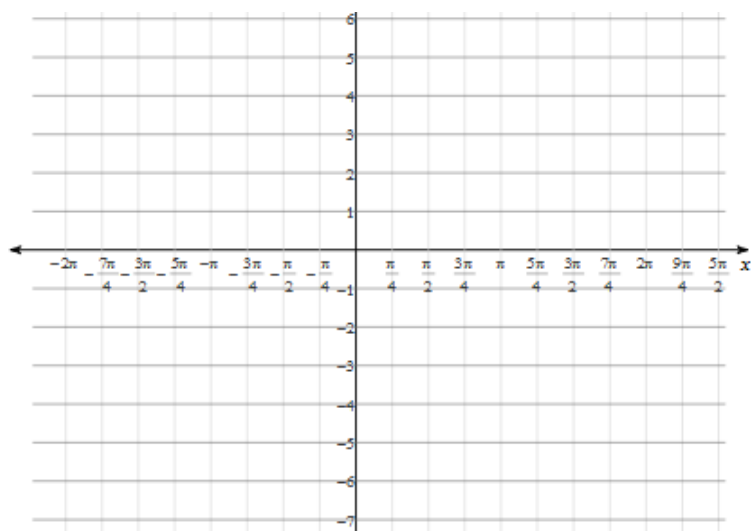
y-intercept: \_\_\_\_\_



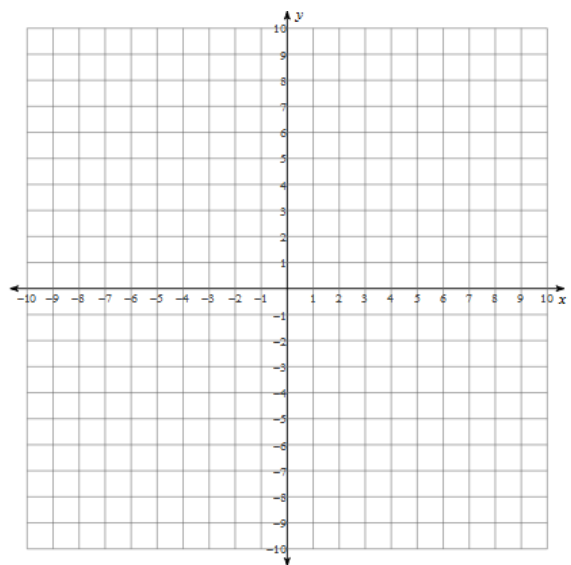
7)  $f(x) = |4\sin 2x|$



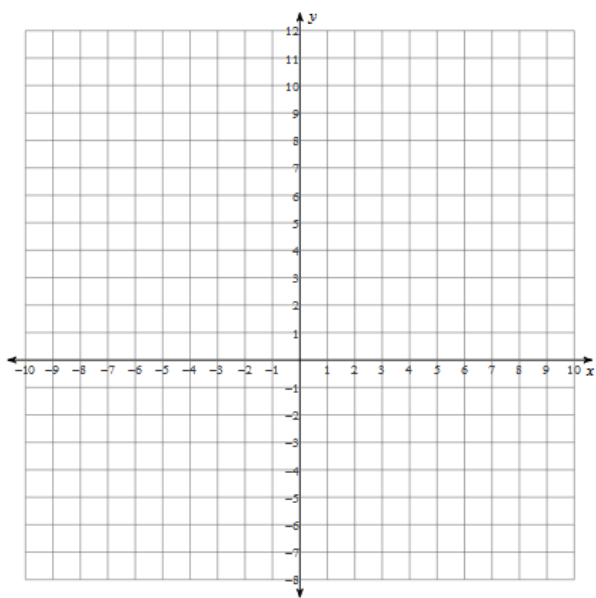
8)  $f(x) = e^{\sin x}$



9)  $y = \sqrt{x^2 - 4}$



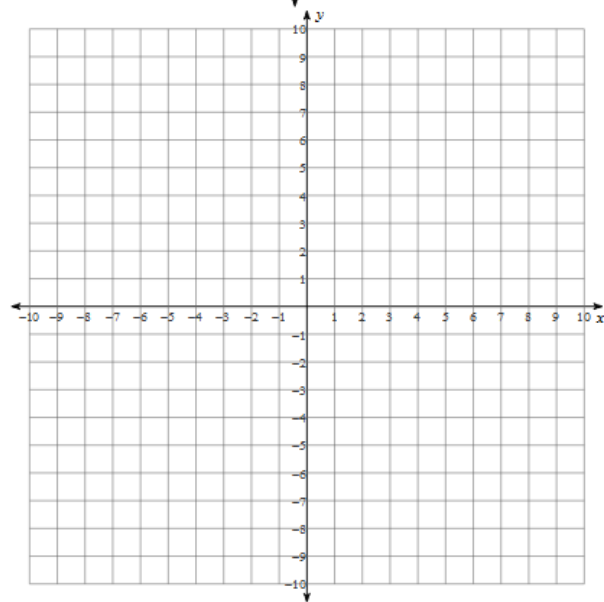
10)  $y = \sqrt{10 - 2x - x^2}$



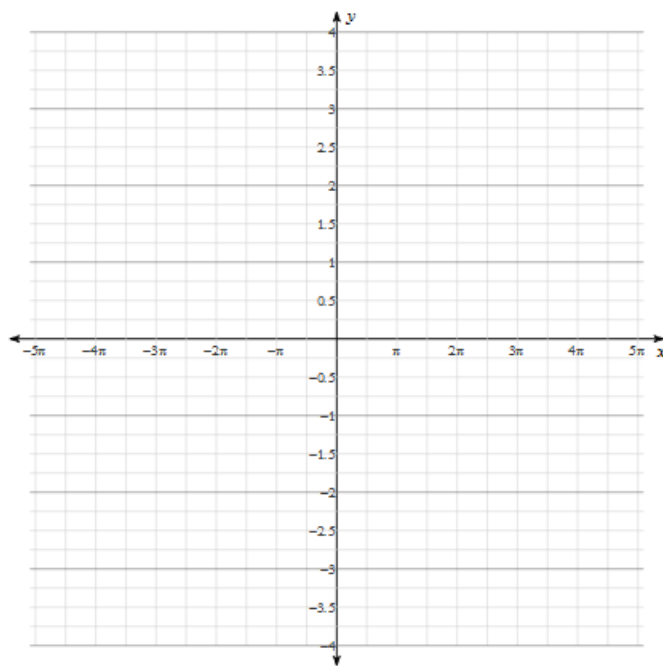
x-intercepts: \_\_\_\_\_

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

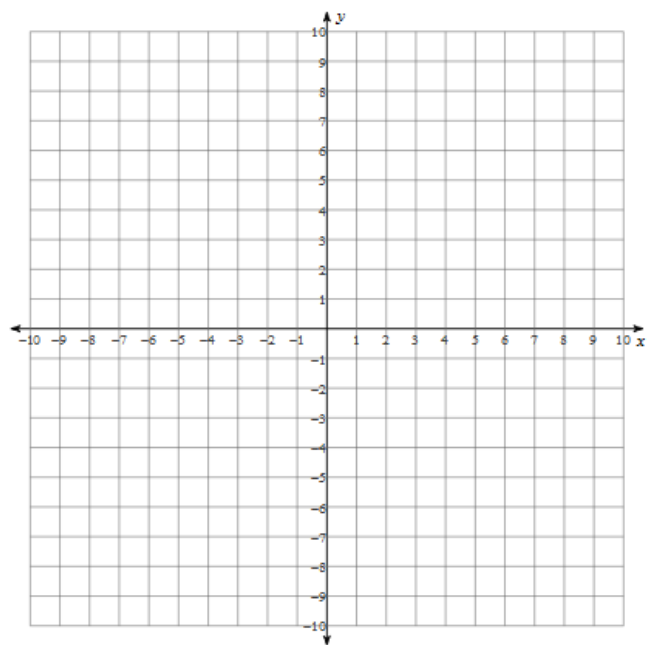
11)  $f(x) = \sqrt{2^{x+3}} - 1$



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



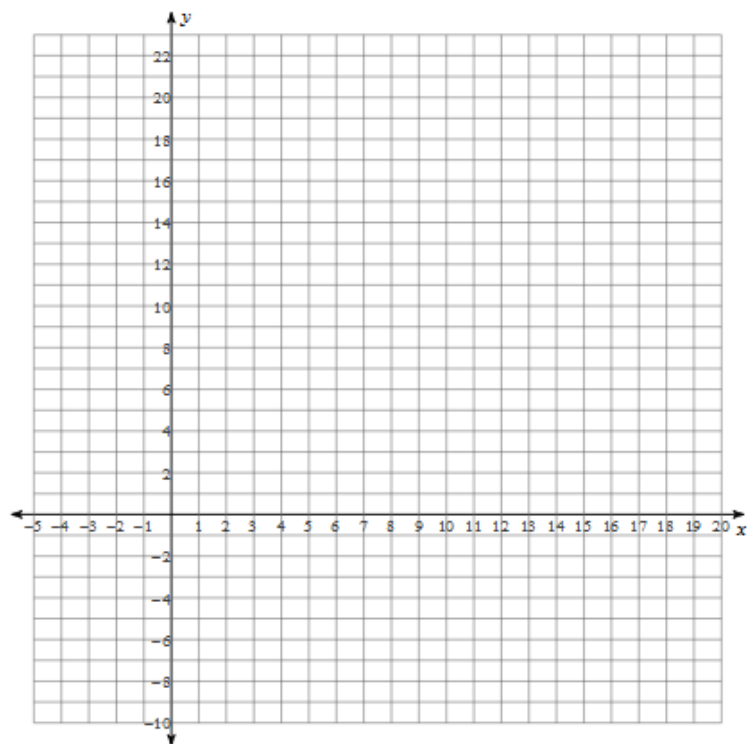
13)  $y = \sqrt{x^2 + 6x + 5} - 3$



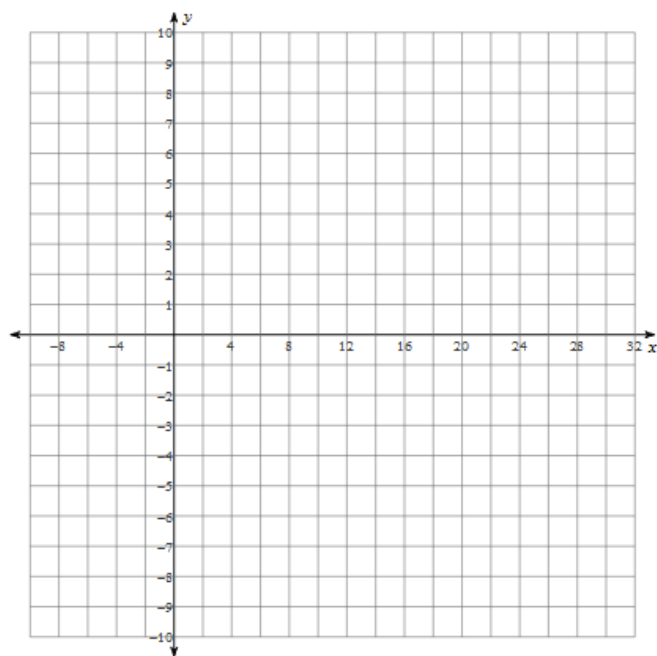
domain: \_\_\_\_\_

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

14)  $y = 2^{\sqrt{x}} + 1$



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



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

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