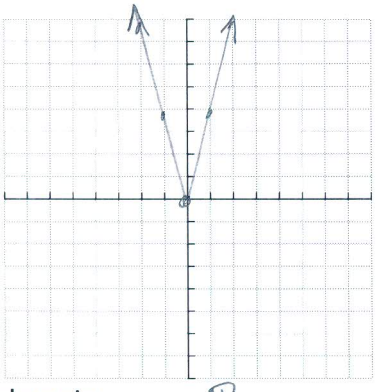
Graphing Absolute Value Functions WS Name Fulton

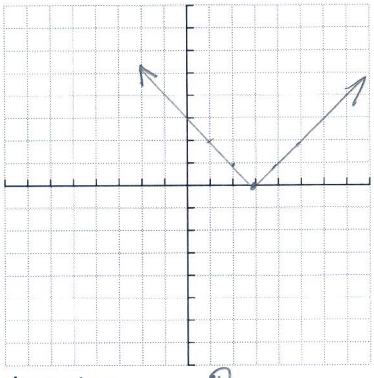
Graph the following absolute value functions using transformations. Identify the domain and range of each.

1. $f(x) = 4|x|$



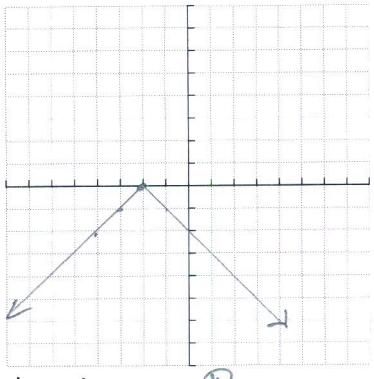
domain: $\mathbb{R}$
range: $[0, \infty)$

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



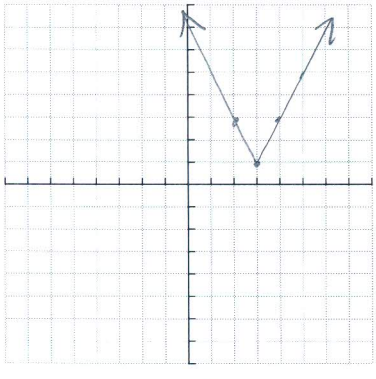
domain: $\mathbb{R}$
range: $[0, \infty)$

3. $f(x) = -|x + 2|$



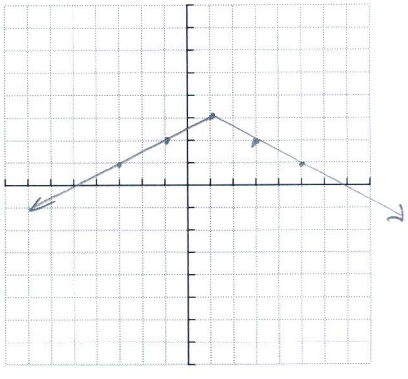
domain: $\mathbb{R}$
range: $(-\infty, 0]$

4. $f(x) = 2|x - 3| + 1$



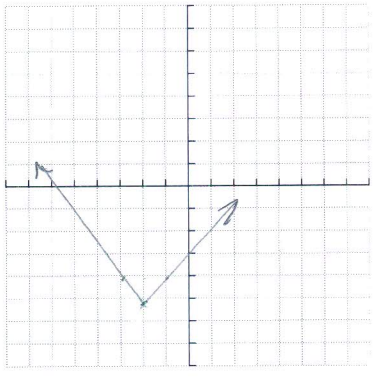
domain: $\mathbb{R}$
range: $[1, \infty)$

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



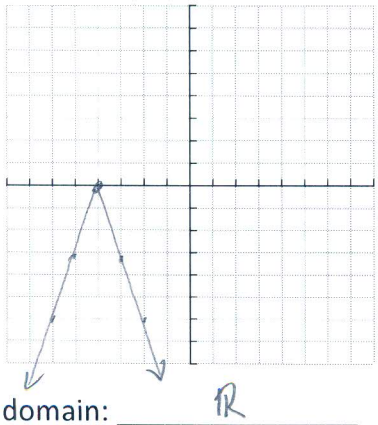
domain: $\mathbb{R}$
range: $(-\infty, 3]$

6. $f(x) = |x + 2| - 5$



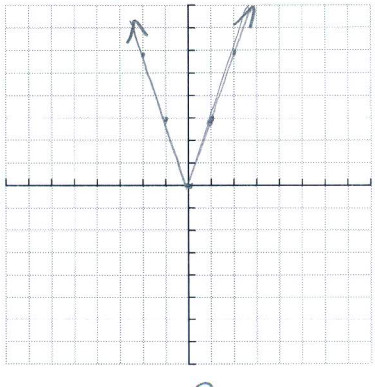
domain: $\mathbb{R}$
range: $[-5, \infty)$

7. $f(x) = -3|x + 4|$



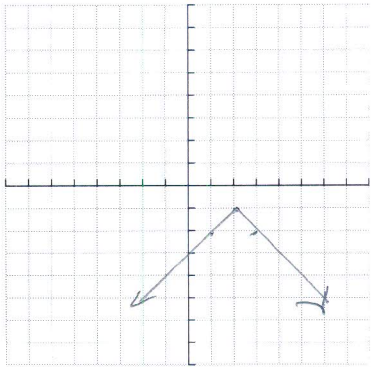
domain: $\mathbb{R}$
range: $(-\infty, 0]$

8. $f(x) = \frac{1}{4}|x| + 3$



domain: $\mathbb{R}$
range: $[0, \infty)$

9. $f(x) = -|x - 2| + 1$



domain: $\mathbb{R}$
range: $(-\infty, 1]$