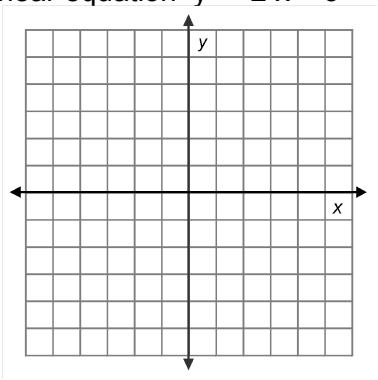
Review for Math 2 Test Unit 1 Name _____ Per _____

Be sure to show your work. No work = No credit

1. Graph the linear equation y = -2 x + 3

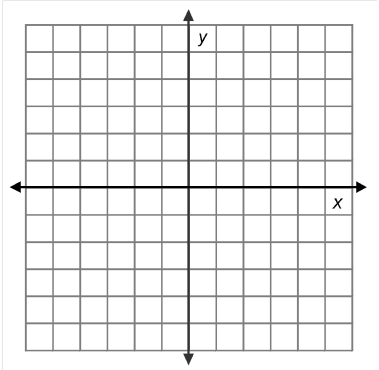


2. Write the equation of the line that passes through the points (2 , 7) and (4 , 15)

3. Graph the piecewise function:

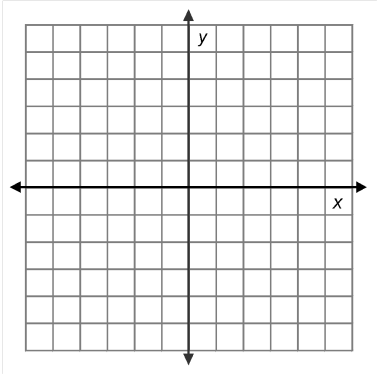
$$f(x) = \begin{cases} 2x-5 & \text{if } x < 2 \\ x+1 & \text{if } x \geq 2 \end{cases}$$

4. Evaluate the function in prob 3 for x = 0 and x = 5



5. Graph the absolute value functions. Describe the transformations from the parent function y = |x|. State the domain and range.

a. y = |x-3|



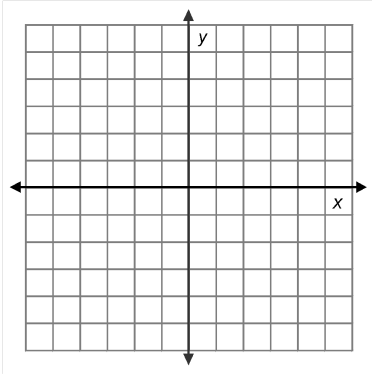
Transformation(s) from the parent function.

_____

Domain:

Range:

b. Y = - 3 | x -2 | + 5



Transformation(s) from the parent function.

_____

Domain:

Range:

6. Simplify each problem using the properties of exponents. Leave answers with only positive exponents. Show your work/thinking to *justify your final answer*.

a. $\dfrac{w^9}{w^4}$ b. $(5m^2)^3$ c. $\left(\dfrac{2}{y}\right)^{-3}$ d. $n^4 m^{-5} x^0$ e. $\left(\dfrac{3v^{-4}y^0}{2v^2y^3}\right)^3$

7. Evaluate. Show your work/thinking to *justify your final answer*.

a. 3^{-4} b. $\dfrac{9^0}{5^{-2}}$ c. $5^{-7} \cdot 5^{10}$ d. $\dfrac{6^0 \cdot 7^5}{2^{-3} \cdot 7^3}$

8. Rewrite the expression in rational exponent form.

a. $\sqrt{8}$ b. $\left(\sqrt[8]{14}\right)^9$ c. $\left(\sqrt[2]{317}\right)^6$

9. Rewrite the expression in radical form.

a. $37^{\frac{2}{5}}$ b. $46^{\frac{1}{2}}$ c. $(-64)^{\frac{7}{4}}$

10. Evaluate. Show your work/thinking to *justify your final answer.*

a. $125^{\frac{4}{3}}$ b. $4^{\frac{3}{2}}$ c. $\left(125y^3\right)^{\frac{1}{3}}$

d. $\sqrt[4]{16}^{\,3}$ e. $\sqrt{25}^{\,3}$ f. $\sqrt[4]{81}^{\,2}$