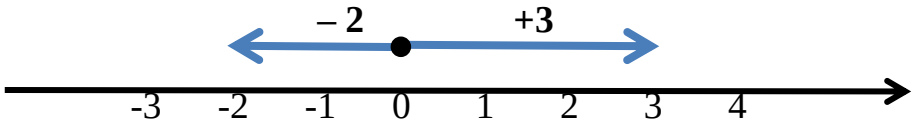
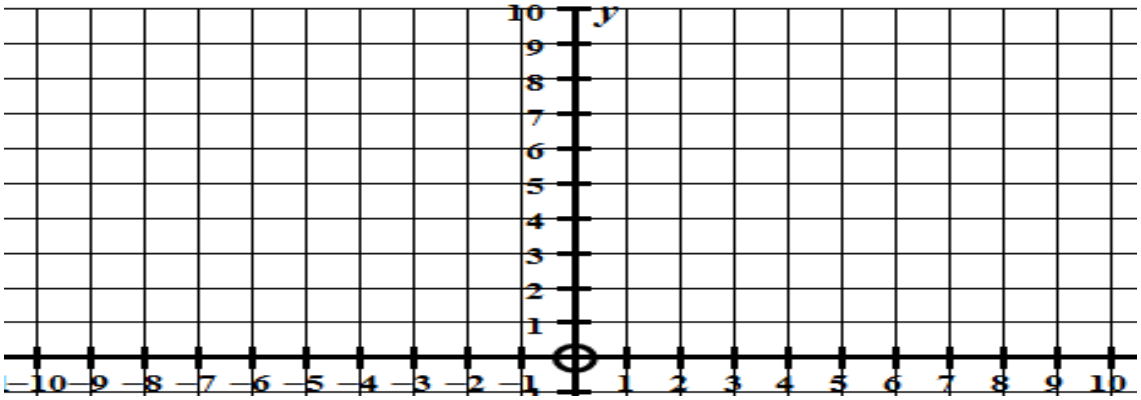
MODULUS FUNCTION (or Absolute Value.)



1. The symbol for **modulus** is 2 vertical lines: $\left| \quad \right|$
2. The LENGTH of **+3** is written as $|+3| = \mathbf{3}$
3. The LENGTH of **– 2** is written as $|-2| = \mathbf{2}$
4. Basically $|\ 3 - 5\ |$ means "what is the length of – 2, which is 2.
5. $|\ 1 - 7\ | = 6$ not -6
6. Consider the equation $y = |x|$ This is pronounced ***y = MOD x***

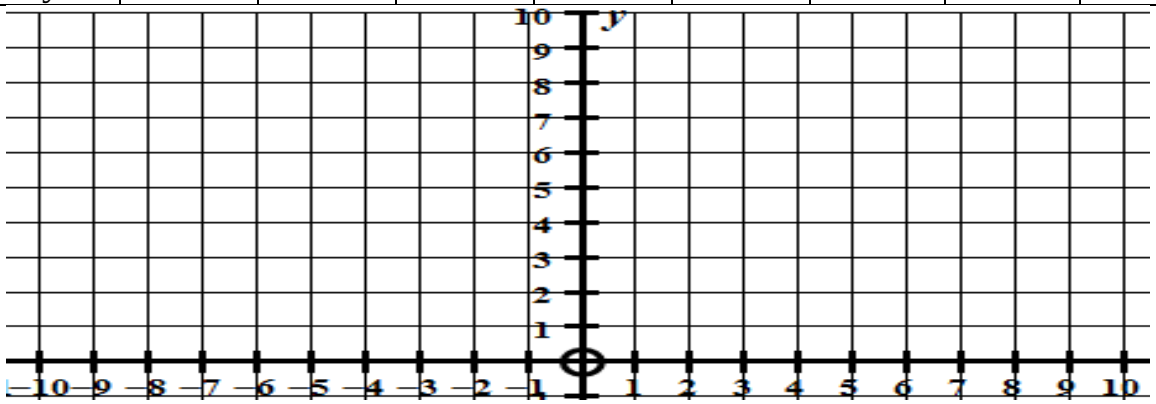
x	-4	-3	-2	-1	0	1	2	3	4
$y = \|x\|$									

Draw the graph of $y = |x|$



7. Calculate points on this graph the draw the graph. $y = |\ x - 4\ |$

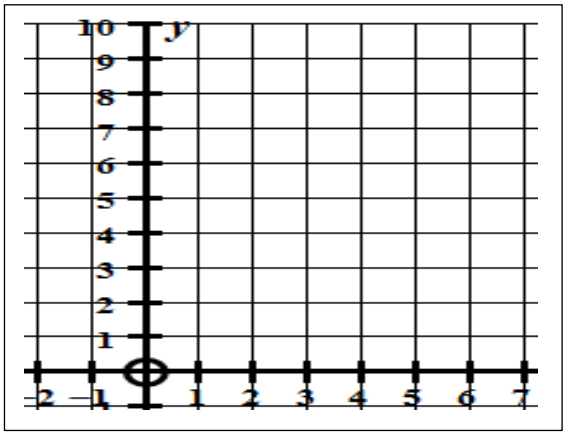
x	0	1	2	3	4	5	6	7
y								



8. How are the graphs $y = |x|$ and $y = |\ x - 4\ |$ related to $y = x^2$ and $y = (x - 4)^2$?

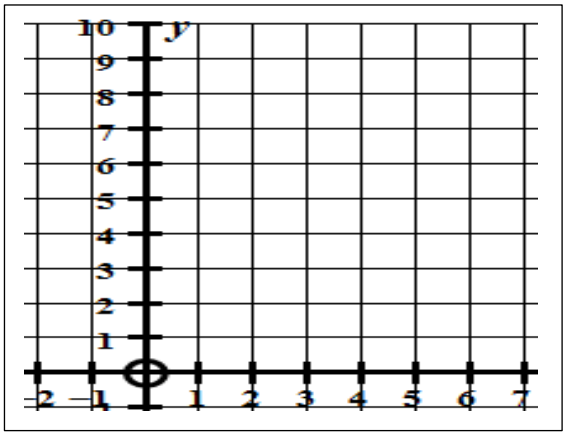
9. Draw the graph of the parabola

$y = (x - 4)^2 + 3$ on the axes.



10. Draw the graph of the modulus function

$y = |x - 4| + 3$ on the axes.



11. Write the equations of the graphs drawn on the axes below.
Write the domains with the equations. (ie values of x)