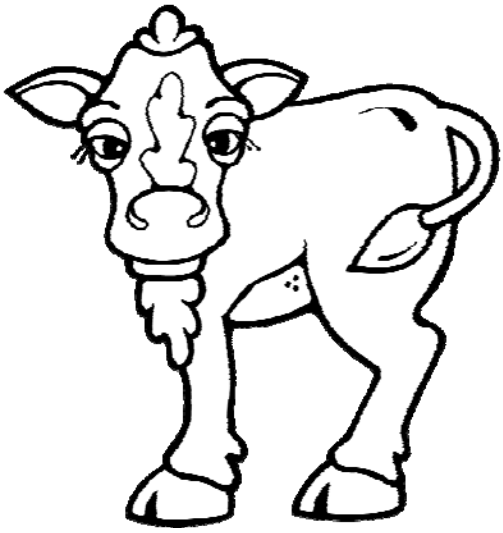
Name _____ **Date**_____

Visualizing the Intersection and Union of Sets with Venn Diagrams Lesson 3



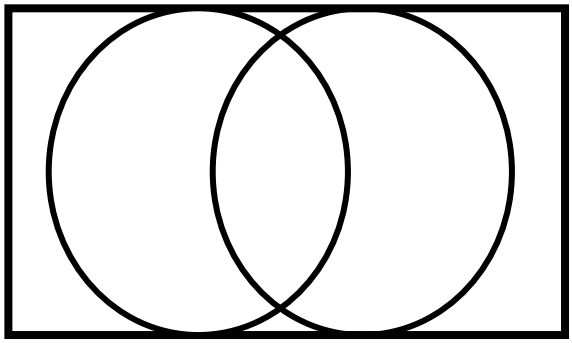
From our previous 2 lessons, we now know how to find the Intersection and Union of 2 sets. What we want to do now is display these operations using a Venn diagram. To start, let's find the Intersection and Union of sets x and y below.

Set x {6, 5, 14, 7, 12} Set y {17, 6, 9, 8, 11}

$x \cap y = \{6\}$ (6 is the only element found in both sets).

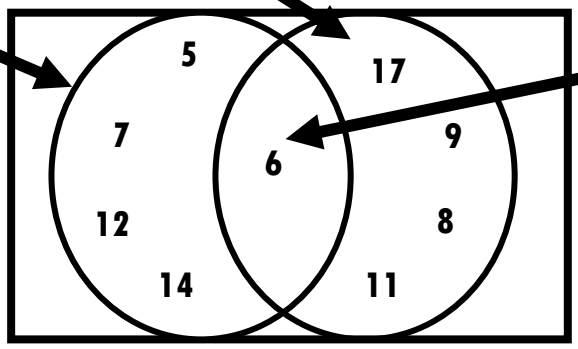
$x \cup y = \{6, 5, 14, 7, 12, 17, 9, 8, 11\}$
(We list one instance of each element found in both sets)

We will start to visualize this by using a Venn diagram. Start by drawing the circles of the diagram and place them in a rectangle.



Each circle represents the data in each set. Circle 1 will be the data from set x and circle 2 will be the data from set y. Write the data in the circle.

Set x {6, 5, 14, 7, 12} Set y {17, 6, 9, 8, 11}



We can see that the element 6 overlaps both circles to indicate the intersection. This area would be labeled as: $x \cap y$