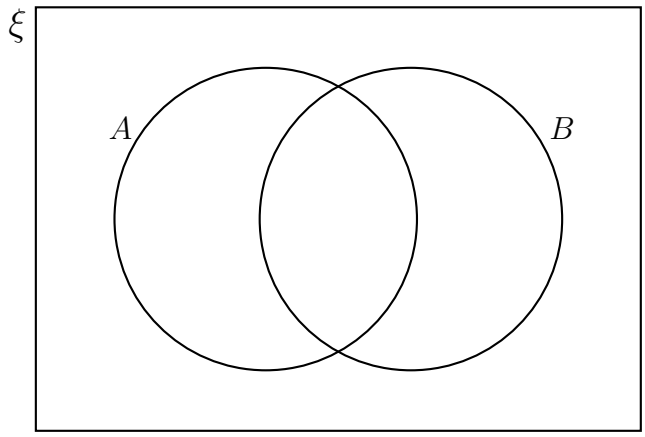
1. { FYI No need for students to be able to understand e.g. factor etc}

   (a) ξ = {bird, blue, cat, rabbit, room, red, thick, thin}
   A = {bird, cat, rabbit, room} {FYI categories like: noun, 4 letters, palindrome etc}
   B = {bird, blue, room, thin}

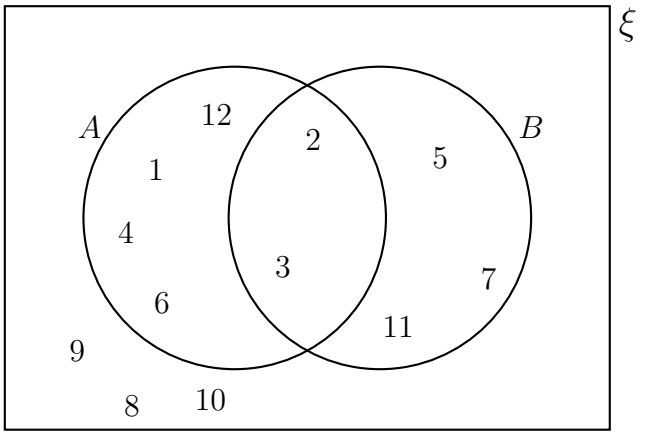
   (b) ξ = {▲, △, ♦, ■, ◯, ♡, ♣, ♠, ◇}
   A = {♣, ♠, ▲,} {FYI categories like: black, polygon, line or rotational symmetry}
   B = {▲, △, ◇, ♦, ■}

   (c) ξ = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}
   A = {1, 3, 5, 7, 9} {FYI categories like: even, multiple of 3, factor of 6, prime}
   B = {1, 4, 9}

   Complete this Venn diagram for this information.



2. Here is a Venn diagram.



   (i) Complete the set $A \cap B$ = { . . . . . }

   (ii) Complete the set A' = { . . . . . }

   (iii) Write down the numbers that are in the set B'

   (iv) Write down the numbers that are in the set $A \cup B$

   (v) Abbey says that the set A' = {5, 7, 11}

   She is wrong.

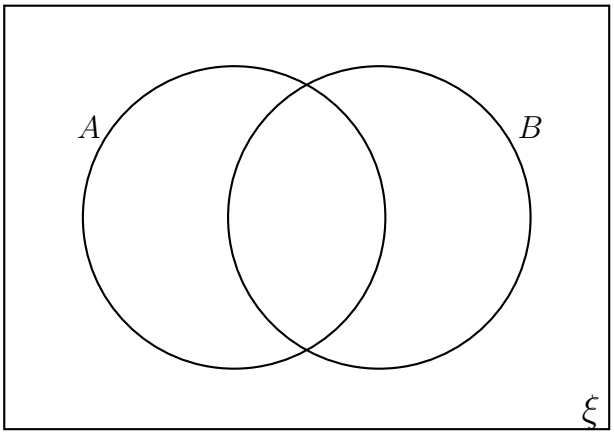
   Explain why.

3. $\xi = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\}$

   (a) $A \cap B = \{12\}$
   $A \cup B = \{4, 6, 8, 12\}$
   $B = \{6, 12\}$

   (b) $A = \{2, 4, 6, 8, 10\}$
   $A \cap B = \{4\}$
   $A \cup B = \{1, 2, 4, 6, 8, 9, 10\}$

   Complete this Venn diagram for this information.



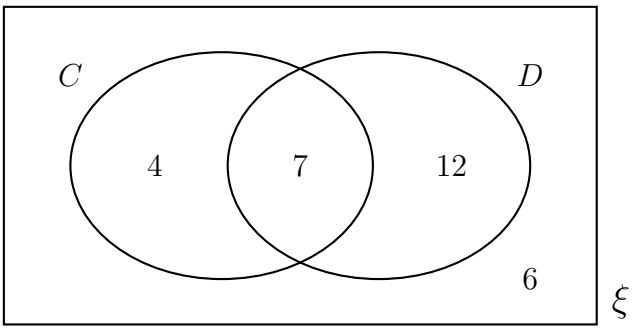
4. This Venn diagram shows the number of visitors to the vet who own a cat, C and who own a dog, D.

   A visitor to the vet is picked at random.

   (a) Write down

   (i) P(C) {OR P(C') OR P(D) OR P(D')}

   (ii) P($C \cap D$) {OR P($C \cup D$) }



   (b) Describe in words what P($C \cap D$) means. {OR P($C \cup D$) OR P(C') OR P(D')}