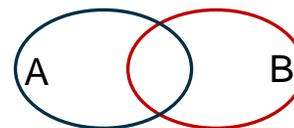
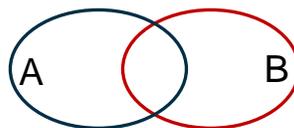
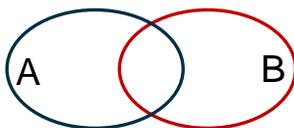
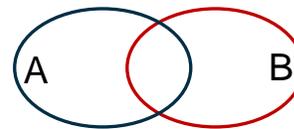
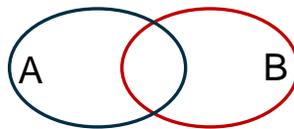
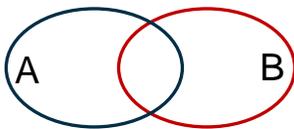
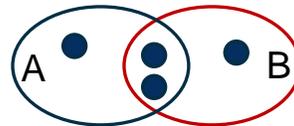


Math 4e. Homework 22.

1. On the diagrams of sets A, and B put 4 elements so that (just draw 4 points, or put any four letters).

- a. each set contains 3 elements
- b. set A contains 2 elements, set B contains 4,
- c. set A contains 4 elements, sets B contains 3 elements,
- d. set A contains 0 elements, set B contains 4 elements,
- e. each set contains 2 elements,
- f. each set contains 4 elements.
- g. Both sets are empty sets.

Example: a. each set contains 3 elements



2. Find the intersection and union of the sets M and F.

$$M = \{2, 4, 5, a, 25, 7\}, \quad F = \{4, 24, a, b, c\}$$

3. Write

- a. 2 elements of the set of book titles.
- b. 5 elements of the set of mammals.
- c. 3 elements of the set of car models.
- d. 4 elements of the set of proper fractions.

4. How many elements in the set of
 - a. English alphabet
 - b. days of the week
 - c. months of the year
5. Create sets of prime factors of numbers 66 and 88. What is in intersection and unions of these sets? What is the product of all elements of the intersection of these sets? What is the product of all elements of the union of sets?

$$F = P(66) \cap P(88), \quad M = P(66) \cup P(88)$$

(hint: $P(36)$ is the set of prime factors of 36, $P(36) = \{2, 2, 3, 3\}$)

6. There are orange, kiwi and banana in a first fruit vase, a peach and a plum in the second vase, and an apple and a pear in the third vase. How many different ways exist to take one fruit from each vase? (for example, a kiwi, a peach and an apple, or a banana, a peach, and a pear)
7. *Draw a Venn diagrams for sets of quadrilaterals, rectangles, squares, rhombus. Think about the relationship between these sets.
8. Write the expression to solve following problems:
 - a. One side of the rectangle is a cm, which is $\frac{5}{2}$ of the other side. What is the area of the rectangle?
 - b. Side of a square is c , which is $\frac{4}{5}$ of one side of the rectangle and $\frac{5}{6}$ of the other side of the rectangle. How many times is area of the rectangle greater than the area of the square.
9. Solve the equations:

$$a. 1\frac{2}{3} + \frac{4}{9}z + 2\frac{1}{3}z = 5\frac{5}{9} \quad b. \frac{4}{5}t + \frac{4}{15} + \frac{2}{3}t = 1$$