Math 5b, homework 9.

1. If A = { 3, 5, 7, 9, 11}, B = {7, 9, 11, 13}, and C = {11, 13, 15}, then find B ∩ C and A ∩ B ∩ C.

2. On the diagrams of sets A, B, and C put elements ♦ and • so that .
   a. each set contains both elements
   b. set A contains both elements, set B contains also both elements, and set C contains one of the elements.
   c. set A contains both elements, sets B and C contain one element each
   d. set A contains both elements, set B contains one element, and set C is an empty set
   e. set A contains both elements, set B contains both elements, and set C is an empty set
   f. each set contains one element


a)   b)   c)

d)   e)   f)
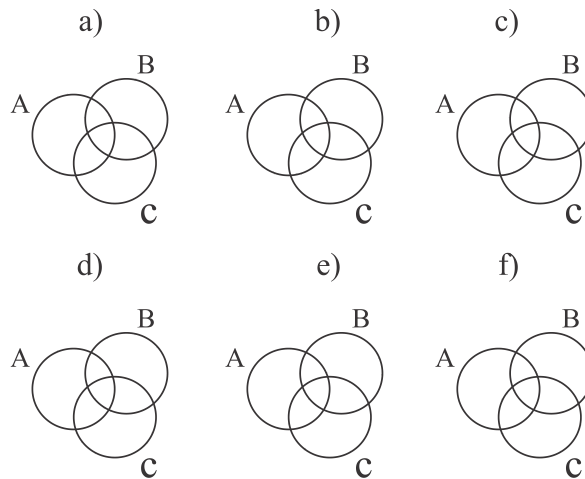
3. Do the multiplication of
   a. $(2 + a)(3 + a)$;   b. $(3x - 2)(2 - x)$;   c. $(1 - x)(1 + x)$;

4. Peter spent 15% of his money and 1.5 dollars on a doughnut and $\frac{3}{5}$of his money and 30 cents on ice-cream. How much money did he have?

5. In Peter's bottle there is 10% more soda than in John's bottle. Peter drank 11% of his soda, while John drank 2% of his soda. So, who has more soda left?

6. Solve the equations:

a. $\dfrac{6x}{25} = \dfrac{0.4}{0.15}$;   b. $1\dfrac{1}{9} : (0.8y) = \dfrac{1}{7} : 3.6$;   c. $\dfrac{1.25}{0.06} = \dfrac{z - 6}{2.4}$;   d. $\dfrac{7}{2 + t} = \dfrac{4.2}{t}$

7. Water is pumped into the pool at a of 2 m³ per minute $\left(2 \; \frac{m^3}{min}\right)$. Write a formula how the volume of water in the pool depends from the time. Fill the table:

t, min	0	1	2	3	4	5	6	7	8
V, m³/min									

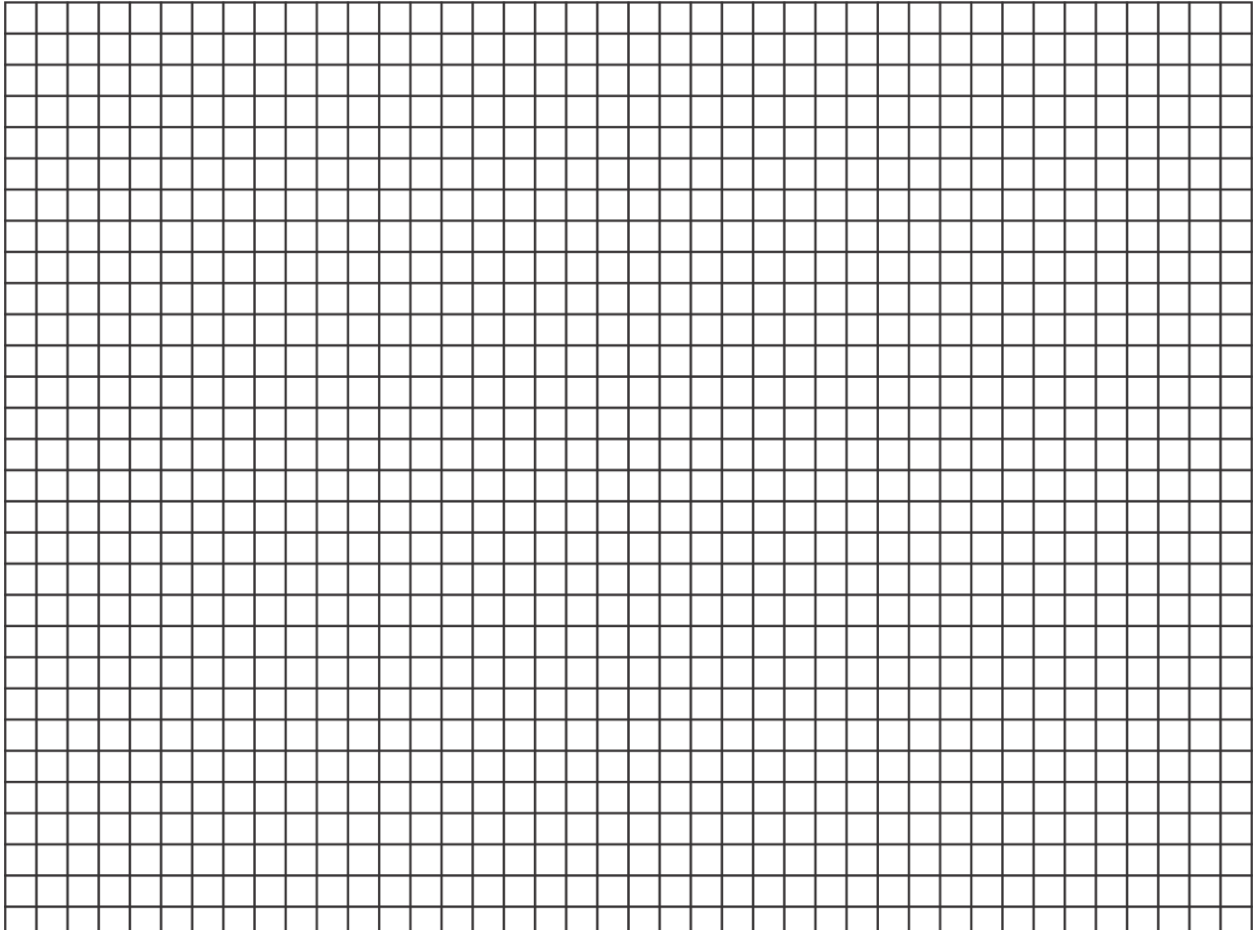**Plot the results from the table (choose the right scale)**
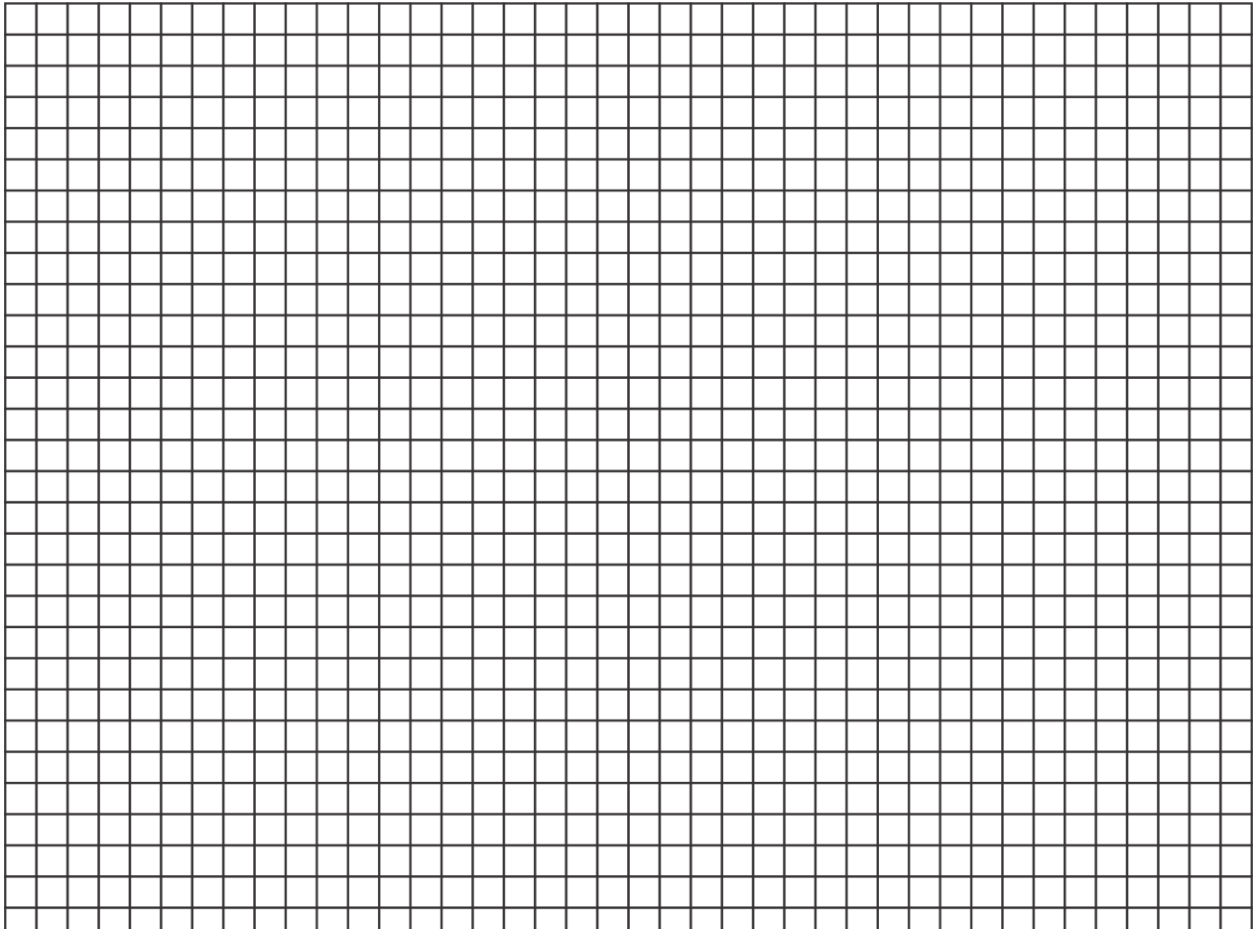
Plot the results from the table (choose the right scale)

8. The pool is 10000 gallons. How does the time to fill up the pool (t hours) depend on the rate of water pumped into it (r gallons per hour)? Fill the table:

r, gal/hour	1	100	200	500	1000	2000	5000	10000
t, hour								

Plot the results from the table (choose the right scale)

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9. Robert bought 2 pounds of carrots at a price of a dollar a pound and 3 pounds of potatoes at a price of b dollars a pound at the farmers' market. Mary bought 4 pounds of cucumbers and paid the same amount of money as Robert. What is the price of 1 pound of cucumbers?
Write a formula for the price of cucumbers.