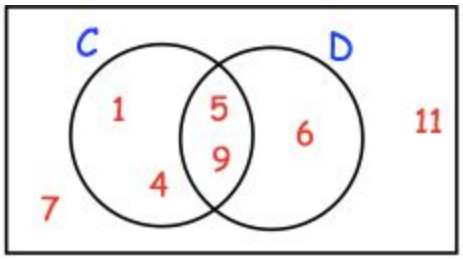
IM1 Problem Set 5 - Daily Tasks		
Task 1	**Task 2**	**DC**
Put solutions to problems from the previous Problem Set on the board	Discuss all problems and come to a consensus. Record solutions in your notebooks and present solutions.	DC

Problem Set 5	
5.1	Use the following information to estimate how many miles a full size car with a 6-cylinder engine goes on one gallon of gasoline: • a midsize car with a 4-cylinder engine goes ten miles more on a gallon of gasoline than a luxury car with an 8-cylinder engine • a subcompact car with a 3-cylinder engine goes thirteen miles more on a gallon of gasoline than a luxury car with an 8-cylinder engine • a midsize car with a 4-cylinder engine goes 34 miles on a gallon of gasoline Explain your reasoning.
5.2	Kadin has \$140 less than three times the amount of money you have. Logan has \$60 more than twice the amount of money you have. If Kadin and Logan have the same amount of money, determine how much money each of them has.
5.3	Mike has \$90 less than four times the amount of money you have. a. Is it possible for Mike to have less money than you? Explain your reasoning. b. What is the least amount of money you could have for this situation to still make sense? Explain your reasoning.
5.4	Here is a Venn diagram. Write down: a. Write down the numbers that are in: (i) D (ii) $C \cup D$ (iii) $C \cap D$ (iv) C` b. What percentage of the total numbers are in (i) D (ii) $C \cup D$ (iii) $C \cap D$ (iv) C` 

5.5	A fastball thrown by a starting major-league pitcher averages 95 mph. There are relief pitchers who can throw a 100-mph fastball. Given that the distance from the pitcher's mound to home is 60 feet 6 inches, determine the difference in the times it takes each fastball to go from the pitcher to home plate.
5.6	*Rectangular prism* is the technical name for what we would commonly call a "box", where all six sides are rectangles and opposite faces are the same. For a particular rectangular prism, the perimeters of the sides are $2x+6$, $2x+12$, and 18 (where all measurements are given in cm), and the areas are $3x$, $6x$, and 18 (where all measurements are given in cm^2). If the surface area is 126 cm^2, determine the total length of the twelve edges of the rectangular prism.
5.7	Using the data from PS 1.2 (25, 23, 27, 27, 30, 31, 30, 24, 26, 24, 29, 28, 58, 24, 27, 30, 27, 28, 25, 27) and make a frequency histogram that represents the data. Use intervals of 3, starting from 20.
5.8	Working with graphing calculators, graph and then sketch the following linear functions: a. Graph (i) $y = x$. (ii) $y = x + 6$. (iii) $y = x - 13$. b. How are the graphs (i) similar (ii) different?
5.9	Graph $2x + 4y = 16$ on your graphing calculator.
Contest Corner	cemc.uwaterloo.ca **1. A bag contains 5 red, 6 green, 7 yellow, and 8 blue jelly beans. A jelly bean is selected at random. What is the probability that it is blue?** **(A)** $\frac{5}{26}$ **(B)** $\frac{3}{13}$ **(C)** $\frac{7}{26}$ **(D)** $\frac{4}{13}$ **(E)** $\frac{6}{13}$ **2. The value of $(2^3)^2 - 4^3$ is** **(A)** 0 **(B)** -8 **(C)** 4 **(D)** 10 **(E)** 12