IM1 Problem Set 23		
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 23	
23.1	Given the following two points, find the slope of the segment joining the 2 points and the distance between the points and find the midpoint between the two points.. a. A(3,6) and B(7,12) b. C(-2,4) and D(4,-4) c. E(-1, -2) and F(4,-5)

23.2	Two lines are parallel if their slopes are the same. Two lines are perpendicular if their slopes are negative reciprocals of each other. For the following pairs of lines, determine if the lines are parallel, perpendicular or neither.
	
	     a. $2x - 4y = 8$ and $4x + 2y = 12$
	     b. $3x - 4y + 16 = 0$ and $y = -2x + 5$
	     c. $x + 3y = -9$ and $6x - 2y + 7 = 0$

23.3	A rectangular field measures 25 m by 50 m.
	
	     a. Determine the area and perimeter of this field.
	     b. A second field has the **same area** as the first field but has different dimensions. Write down 2 possible dimensions of this second field.
	     c. A third field has the **same perimeter** as the first field, but has a different area. Write down 2 possible dimensions of this third field.

23.4	Determine the volume and surface area of the following cuboids:
23.5	Determine the following products/quotients: a. $-7\frac{3}{5} \times 3\frac{3}{4}$ b. $1\frac{2}{3} \times (-5\frac{5}{6})$ c. $(-2\frac{2}{5}) \div (-\frac{4}{5})$ d. $9\frac{2}{3} \div 2\frac{2}{3}$

23.6	To help interpret the meaning of a slope in a word problem, we can use the **units** associated with the numbers and data points. Hence, determine the slope (also known as a rate of change) for the given points and contexts.
	a. Mr S. works as a SAT tutor. If his class has 10 students, he gets paid $350. If his class has 20 students, he gets paid $600.
	b. The student enrollment at CAC was 740 in 2014 and now in 2019, the student enrollment was 850.
	c. Ms. Knox is studying the motion of a car. She notes that the position of the car was 200 m away from her apartment after 5 seconds and that it was 500 m away after 13 seconds.

23.7	Hannah is doing a probability experiment. She has a bag containing 12 cubes, 5 of which are blue and the rest of which are yellow. She will be taking one cube out, recording its color and then taking out a second cube and recording its color.
	a. Draw a tree diagram, showing all the possible options for the colors of the cubes from these 2 draws.
	b. How probable is it that Hannah selects 2 blue cubes?
	c. How probable is it that Hannah selects a blue and a yellow cube?
	d. How probable is it that Hannah does NOT select a yellow cube?

23.8	Determine the equation of the following lines. Then, determine whether the lines are perpendicular or not. Finally, determine the point at which they intersect.
	a. b.