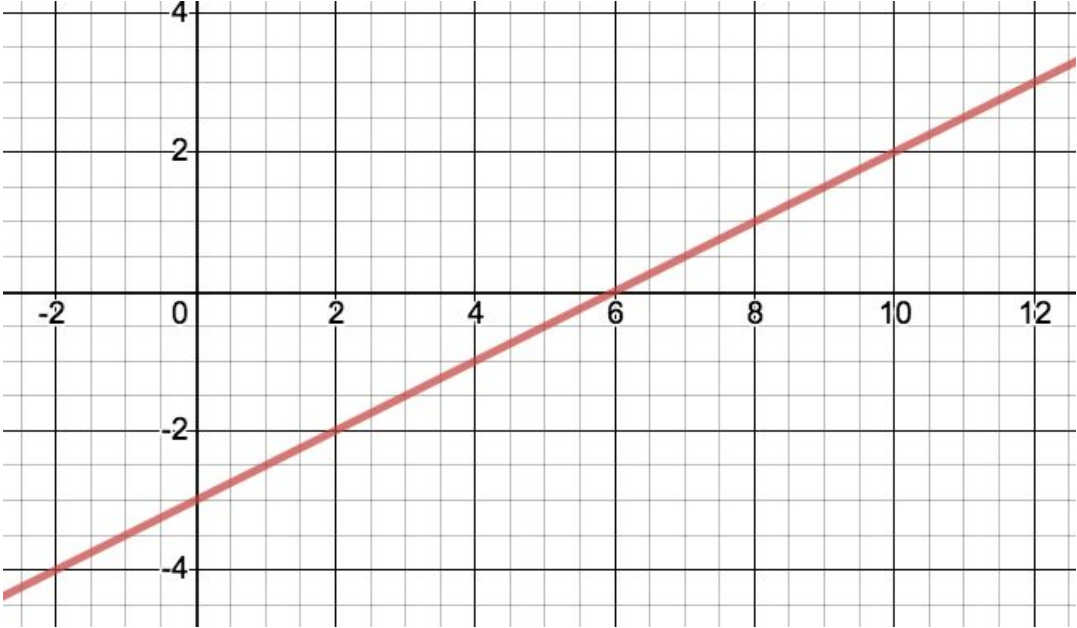


## IM1 Problem Set 0 - Daily Tasks

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 0

<b>0.1</b>	<p>Consider the following mathematical expression: <math>4 + 4 + 4 - 4</math>. Notice I have used the value of 4 four times to create this expression.</p> <p>(a) What is the value of this expression?</p> <p>(b) Can you come up with other expressions using four 4s to equal the same value?</p>
<b>0.2</b>	You will use the number 4 four times and you will use various mathematical operations and operators in order to write expressions that equal the integers 0 through 20
<b>0.3</b>	<p>Find the equation of the line shown in the following diagram. Express the equation in as many forms as you remember from Gr 8.</p> 
<b>0.4</b>	Evaluate: (a) $\frac{1}{2} + \frac{3}{4} - \frac{3}{8} \times \frac{2}{3}$ (b) $(\frac{3}{7} - \frac{2}{9}) \times \frac{1}{3} + \frac{1}{2}$ (c) $10\frac{1}{2} \div 2\frac{1}{3}$

**0.5** You are given 36 equally sized cubes. Arrange them to make a rectangle in any way you wish and record the details of the arrangement you used. Determine the perimeter of the space then occupied by these 36 cubes as well as the area of the arrangement you created.

**0.6** Determine the rectangular arrangement of these 36 equally sized cubes that would present the greatest possible perimeter as well as the lowest possible perimeter.

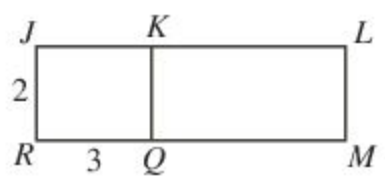
**0.7** Solve the following linear equations:

a.  $2x - 5 = 12$   
 b.  $5 - 2x = 12$   
 c.  $2(x - 5) = 12$   
 d.  $2x - 5 = 4x + 12$

**Contest Corner**

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1. In the diagram,  $JLMR$  and  $JKQR$  are rectangles. Also,  $JR = 2$ ,  $RQ = 3$  and  $JL = 8$ . What is the area of rectangle  $KLMQ$ ?  
 (A) 6 (B) 16 (C) 10  
 (D) 15 (E) 24



2. The mean (average) of five consecutive even numbers is 12. The mean of the smallest and largest of these numbers is  
 (A) 12 (B) 10 (C) 14 (D) 8 (E) 16

3. In the diagram, the numbers from 1 to 25 are to be arranged in the 5 by 5 grid so that each number, except 1 and 2, is the sum of two of its neighbours. (Numbers in the grid are *neighbours* if their squares touch along a side or at a corner. For example, the "1" has 8 neighbours.) Some of the numbers have already been filled in. Which number must replace the "?" when the grid is completed?  
 (A) 15 (B) 12 (C) 14  
 (D) 11 (E) 13

			20	21
	6	5	4	
23	7	1	3	?
	9	8	2	
25	24			22