

Student Name: \_\_\_\_\_

Question:	1	2	3	4	5	6	Total
Points:	20	30	10	15	25	0	100
Score:							

Answer all questions on this sheet, and hand in to Mr. Lawless on, or before Wednesday, 2013-10-02. Marks are awarded based on workings shown: correct answers will not receive full marks without accompanying calculations.

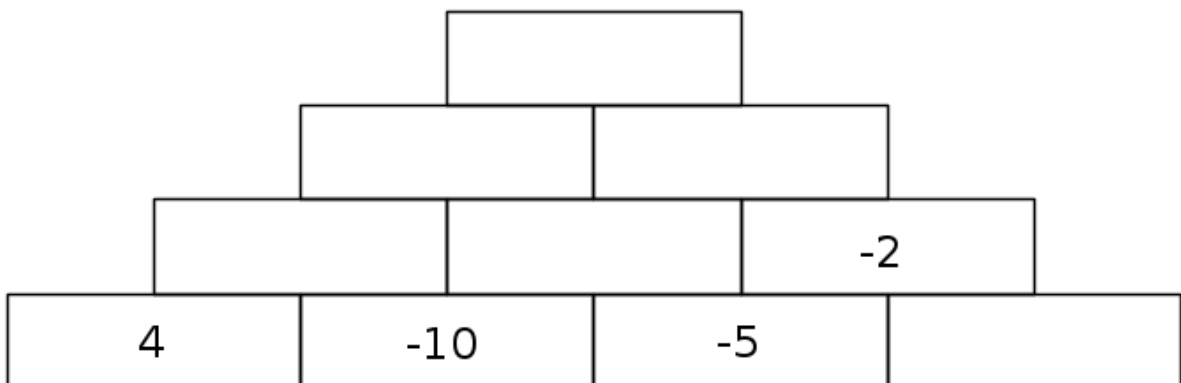
1. Draw a numberline, making sure to include the following numbers on it: [20 marks]

•0	•HCF(6, 9)
•4 <sup>th</sup> prime	•8
•-7	•Smallest positive integer
•LCM(2, 3)	•2 <sup>2</sup>
•-5	•-4

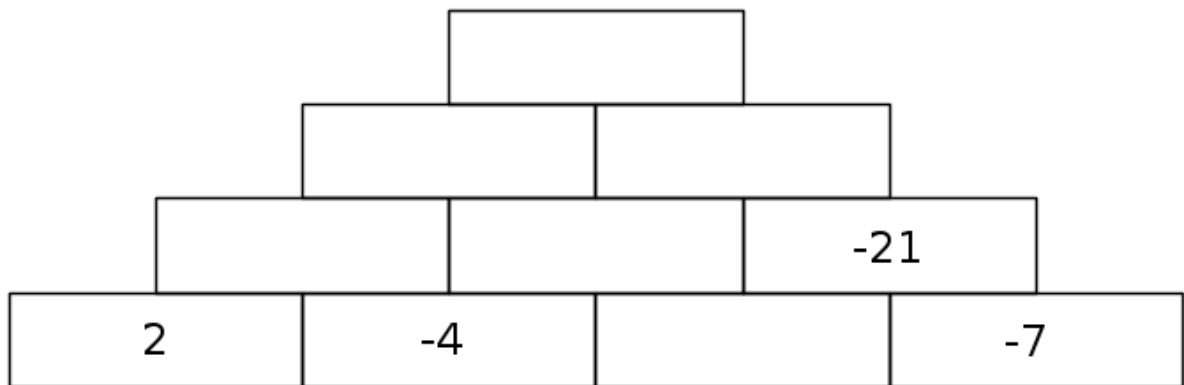
2. Evaluate the following:

- (a)  $8 - 2 + 1 - 5$  [5 marks]  
 (b)  $-3 + 4 - 1 + 2$  [5 marks]  
 (c)  $3 \times -12$  [5 marks]  
 (d)  $(-2)(-15)$  [5 marks]  
 (e)  $30 \div -15$  [5 marks]  
 (f)  $(-4)^3$  [5 marks]

3. Complete the following number pyramid using addition and subtraction: [10 marks]



4. Complete the following number pyramid using multiplication and division: [15 marks]



5. Use the order of operations to evaluate the following expressions:

(a)  $12^2 + 13^2$  [5 marks]

(b)  $2^2 \times 3^2$  [5 marks]

(c)  $2(9 + 3)$  [5 marks]

(d)  $\frac{2 \times 3 + 3}{6 + 5}$  [5 marks]

(e)  $\frac{3(5-2)^2 - 3(4 \div 2)^2 + 5(3)^3}{(5-2)^2}$  [5 marks]

6. The locker problem: 1,000 students march slowly through their school, going past 1,000 lockers. The first student opens every locker along the way. Then the second student comes along and shuts every second locker. Then the third student reverses the condition of every third locker, and then the fourth student reverses the condition of every fourth locker. The students continue in this manner (e.g., the 99th student reverses the condition of every 99th locker, etc.). After all students have gone through the school, which lockers remain open?