

## March 2014: Algebra revision

(a)  $2xy - 6xz + 15yz - 30$

- (i) How many TERMS are in the above expression?
- (ii) Write down the VARIABLES used.
- (iii) Write down the CO-EFFICIENTS used.
- (iv) Write down the CONSTANT used.

(b) if  $x = 4$ ,  $y = 2$  and  $z = -3$ , find the value of:

- (i)  $x - y$
- (ii)  $3x - 4y + 5z$
- (iii)  $2(x + y)^2 + 6z$

(c) Simplify each of the following expressions:

- (i)  $5x + 2y - 7c + 8y - 9x + 13c$
- (ii)  $6x^2y + 12xy^2 - 4x^2y - 4xy^2$
- (iii)  $(5y)(2)$
- (iv)  $(3a)(4a^2)(-12)$
- (v)  $(d)(4df)(f^3)$
- (vi)  $2(a - 5)$
- (vii)  $5(3x^2 + x + 12) + 4(x^2 - x + 15)$
- (viii)  $g(g + 5g)$
- (ix)  $9a(2a^2 + 3)$
- (x)  $(x + 7)(x + 2)$
- (xi)  $(2x + 1)(6x - 1)$
- (xii)  $(x - 2)^2$

(d) Solve each of the following equations using Stabilisers and justify your answer.

i)  $5x = 100$

ii)  $-18 = 3a$

iii)  $x - 2 = 7$

iv)  $2x + 2 = 18$

v)  $15y - 4 = 12y - 25$

vi)  $4(x + 1) + 4 = 2(x + 4)$

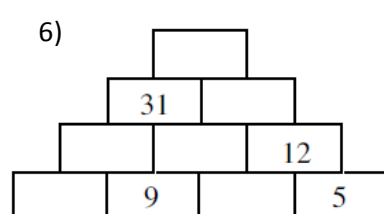
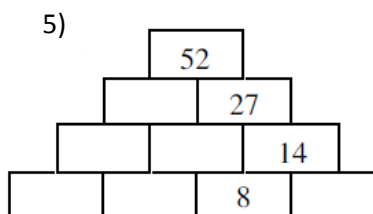
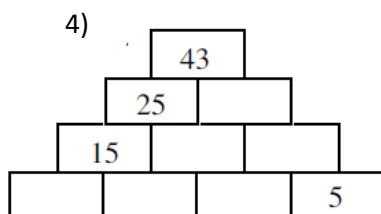
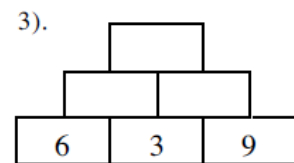
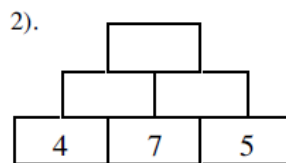
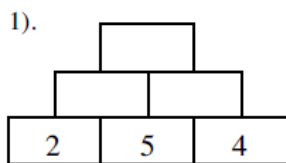
## March 2014: Addon-agons and pyramids revision



### Number Pyramids.



To find the next number, **add** the two bricks below it.  
Copy each pyramid and fill in the missing numbers.



### Addon-agons.



**Rule:** The numbers in the two circles **add up** to the number in the square **between them**.  
Copy and complete the diagrams. The first two have been partly done to help you.

