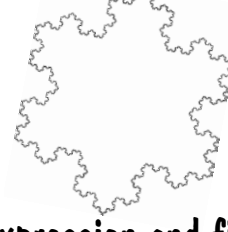
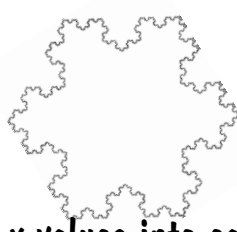


# Christmas Tree Puzzle



Simplify each of the expressions. Substitute the correct  $x$  values into each expression and find the sum of them all to discover the total.

$$(2x^3)^2$$

$$(x+3)^2$$

$$3x(5x-4x^2)$$

$$(2x+1)(3x-4)$$

$$(x+4)(x+3)^2$$

$$3(5-2x)-2(3x+5)$$

$$(x+2)(x-3)(x+1)$$

$$(x+4)(3x-2)(2x+1)$$



Answers. The corresponding value of  $x$  is in the bracket. E.g. for (1)  $x=1$

a. (1)  $2x^5$  (2)  $4x^6$  (3)  $4x^5$  (4)  $2x^6$

b. (1)  $x^2+9$  (2)  $x^2+3x+9$  (3)  $x^2+6x+9$  (4)  $x^2+6x+6$

c. (1)  $15x-12x^2$  (2)  $15x^2-12x^3$  (3)  $8x^2-7x^3$  (4)  $8x^2-7x^3$

d. (1)  $6x^2+14x-4$  (2)  $6x^2-5x-4$  (3)  $6x^2-5x+4$  (4)  $6x^2-14x-4$

e. (1)  $x^2+7x+12$  (2)  $x^3+10x^2+33x+36$  (3)  $x^3+8x^2+24x+36$

f. (1)  $5-12x$  (2)  $12x-5$  (3)  $25$  (4)  $25-12x$

g. (1)  $x^3+7x+6$  (2)  $x^3+7x-6$  (3)  $x^3-7x+6$  (4)  $x^3-7x-6$

h. (1)  $6x^3+23x^2-6x-8$  (2)  $6x^3+18x^2-5x-8$  (3)  $6x^3+21x^2-6x-8$

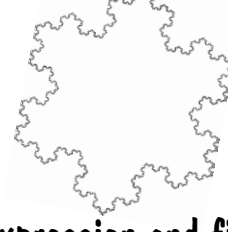
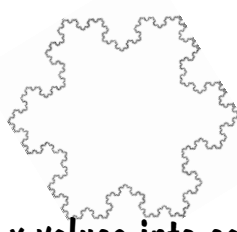
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Total:

--



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h. (1)  $6x^3+23x^2-6x-8$  (2)  $6x^3+18x^2-5x-8$  (3)  $6x^3+21x^2-6x-8$

256

36

-46

10

150

-7

30

15

Total:

444

