

Quadratic Sequences

	2nd diff		2		2		2
	1st diff	4		6		8	10
		3	7	13	21	31	
n^2		1	4	9	16	25	
		2	3	4	5	6	
$+n$		1	2	3	4	5	
$+1$		1	1	1	1	1	

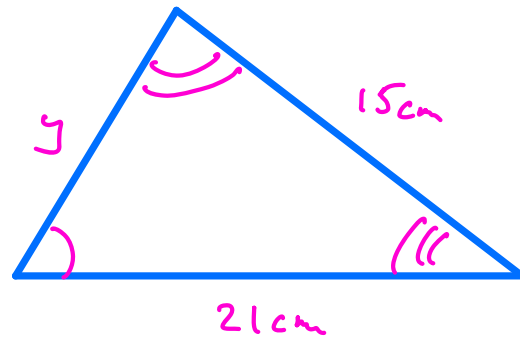
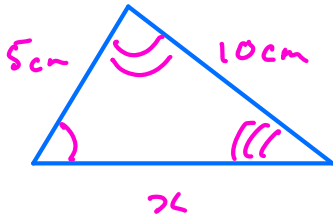
n^{th} term $n^2 + n + 1$

Ex 2

	2nd diff		6		6		6
	1st diff	8		14		20	26
		3	11	25	45	71	
$3n^2$		3	12	27	48	75	
		0	-1	-2	-3	-4	
$-n$		-1	-2	-3	-4	-5	
$+1$		1	1	1	1	1	

n^{th} term $= 3n^2 - n + 1$

Similar Triangles



Ratio between corresponding sides

$$= 10 : 15$$

$$= 2 : 3$$

$$y = 5 \times \frac{3}{2}$$

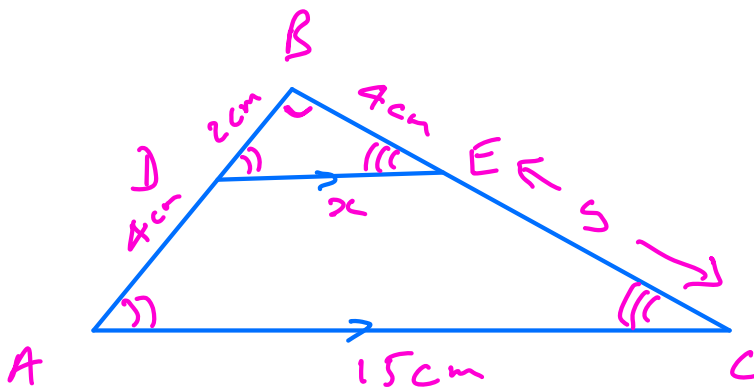
getting bigger

$$y = 7.5 \text{ cm}$$

$$x = 21 \times \frac{2}{3}$$

getting smaller

$$x = 14 \text{ cm}$$



Find x, y

$$\text{Ratio is } 2 : 2+4$$

$$= 2 : 6$$

$$= 1 : 3$$

$$x = 15 \times \frac{1}{3} = 5 \text{ cm}$$

$$y + 4 = 4 \times \frac{3}{1} = 12 \text{ cm}$$

$$y = 8 \text{ cm}$$
