

Review 9

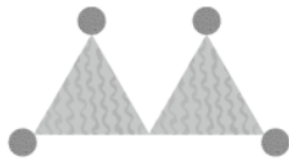
1



uses triangles and circles to form a sequence of patterns.



Pattern 1



Pattern 2



Pattern 3

(a) Complete the table.

Pattern number	Number of triangles	Number of circles
1	1	3
2	2	4
3		
7		
16		
a		

(b) Find the number of circles in Pattern 79.

2wrote 10 consecutive whole numbers starting with b .

- (a) What is the third number that he wrote? Write the number in terms of b .

- (b) What is the sixth number that he wrote? Write the number in terms of b .

3has a spreadsheet programme that uses a rule to change the input number n . Find an algebraic expression for the output T in terms of n .

n	28	8	12	4
T	7	2	3	1

4Evaluate the expression $5n + 2$ for the given values of n .

n	$5n + 2$
1	
2	
3	
6	
55	

5 T stands for the n th number in this pattern:

1st	2nd	3rd	4th
3	7	11	15

Write a formula for T in terms of n .

$T =$

6 Find each value of k .

(a) $5 + k = 20$

(b) $k - 12 = 46$

(c) $2k = 16$

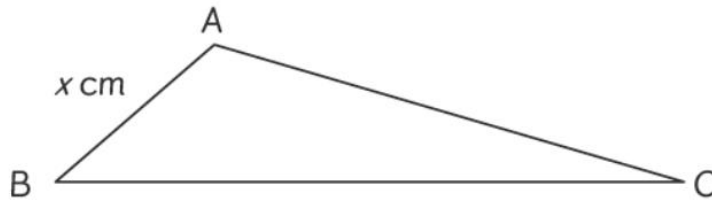
(d) $\frac{35}{k} = 7$

7 Complete the table using the formula:

$$R = 12 + 0.8(x - 14)$$

x	R
20	
32	
54	
69	

8 ABC is a scalene triangle. AB is x cm, BC is three times the length of AB and AC is 4 cm longer than AB.



Write an algebraic expression in terms of x to describe:

(a) the length of BC

(b) the length of AC

(c) the perimeter of triangle ABC



(d) Use the formula $p = 5x + 4$ to calculate:

(i) p when $x = 5.5$

(ii) x when $p = 137$

Mind Workout

Date: _____



made a sequence of patterns using black and white triangles.



Pattern 1



Pattern 2



Pattern 3

Pattern number	Number of black triangles	Number of white triangles	Total number of triangles
1	0	1	1
2	1	3	4
3			
4			
n	$b =$	$w =$	$t =$

Write algebraic expressions for the number of black triangles b , the number of white triangles w , and the total number of triangles t in terms of the pattern number n . Then, find the total number of triangles in Pattern 99.