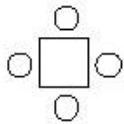


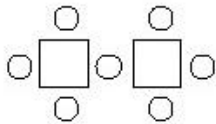
Name _____

Squares and Circles

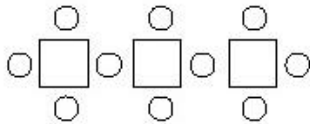
Jack makes patterns using squares and circles.



1 square
4 circles



2 squares
7 circles



3 squares
10 circles

1. Draw a diagram to show Jack's pattern using 4 squares.

Jack makes a table to show the number of circles he needs to make patterns using different numbers of squares:

Number of squares	1	2	3	4	5
Number of circles	4	7	10		

2. How many circles does Jack need to make a pattern using 4 squares?
Write your answer in the table above.

3. How many circles does Jack need to make a pattern using 5 squares?
Write your answer in the table on the first page.
Explain how you figured it out:

4. Jack made a pattern using 10 squares. How many circles does he use? _____.
Show how you figured it out.

5. How many squares does Jack need to make a pattern that uses 40 circles? _____
Explain how you figured it out.

Squares and Circles	Grade 4	Rubric	
The core elements of performance required by this task are: • find and use a pattern Based on these, credit for specific aspects of performance should be assigned as follows		points	section points
1. Draws a correct diagram		1	1
2. Gives correct answer: 13		1	1
3. Gives correct answer: 16 Gives a correct explanation such as: The number of circles increases in 3s.		1	
4. Gives correct answer: 31 Shows correct work such as: $4 + 3 \times 9 = 31$ or counts on from, say 5 squares $16 + 3 + 3 + 3 + 3 + 3 = 31$ Accept alternative correct calculations. Accept correct diagrams.		1	
5. Gives correct answer: 13 Gives a correct explanation such as: The first square needs 4 circles and each extra square needs 3 circles. $40 - 4 = 36$ $36 \div 3 = 12$ $1 + 12 = 13$ Accept alternative correct explanations.		1	
Total Points			8