## Dots

## Triangles

Here is a pattern of dots as triangles.


Note: the first triangle has no dots.

Write the number of dots and find the difference between each number. Continue the pattern for the next 4 triangles.
0

| 1 |
| :--- |
| $\bullet$ |


difference:


What do you notice about the difference in the number of dots in each triangle?
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

Can you explain why?
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## Dots

## Squares

Here is a pattern of dots as squares.


Note: the first square has no dots.

Write the number of dots and find the difference between each number. Continue the pattern for the next 4 squares.
0

| 1 |
| :--- |
| $\bullet$ |


difference:


What do you notice about the difference in the number of dots in each square?
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

Can you explain why?
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## Answers

## Triangles

| 0 | 1 | 3 $\bullet$ | $\stackrel{6}{\bullet}$ | $\begin{aligned} & 10 \\ & \therefore \because \\ & \because \because \end{aligned}$ | $\begin{gathered} 15 \\ : \% \% \\ \because: \% \end{gathered}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

difference:
1


The difference is increased by 1 each time.
Each triangle has a new row of dots which increases by 1 each time.


## Squares

| 0 | 1 | 4 | 9 $\bullet \bullet \bullet$ $\bullet \bullet \bullet$ | $\begin{gathered} 16 \\ 0808 \\ \hline 8888 \end{gathered}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

## difference:

1
3
5
7
9
1113

The difference is increased by 2 each time.
Each square has a new row and column of dots which increases by 1 in each for every square (so 2 in all), and the corner dot (which makes the extra number of dots odd).

