

Patterns

- 5 The first five figures in a pattern are shown below. Each figure is made up of identical circles.



Figure 1

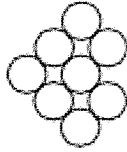


Figure 2

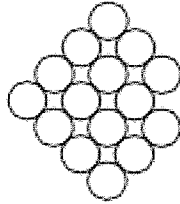


Figure 3

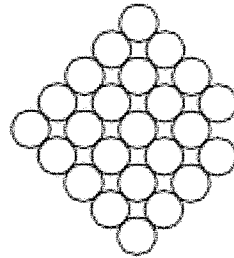


Figure 4

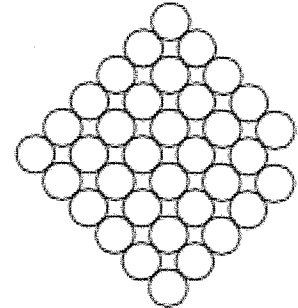


Figure 5

If the pattern continues, which expression can be used to find the number of circles that make up Figure n ?

A $n^2 + 2n$

B $n^2 + 2$

C $2n^2 + 1$

D $2n^2 + n$

Patterns

23 The first five terms in a pattern are shown below.

$$-0.5, -0.25, 0, 0.25, 0.5, \dots$$

If the pattern continues, which expression can be used to find the n th term?

- A $0.75n - 1.25$
- B $-0.25n - 0.25$
- C $0.25n - 0.75$
- D $-0.5n + 0.25$

43 The first six numbers in a pattern are shown below.

$$\frac{1}{3}, \frac{4}{3}, 3, \frac{16}{3}, \frac{25}{3}, 12, \dots$$

If the pattern continues, which expression can be used to find the n th number in the pattern?

- A $\frac{2n}{3}$
- B $\frac{n^2}{3}$
- C $\frac{n^2}{6}$
- D $\frac{2n}{6}$