DESCRIBING AND EXTENDING PATTERNS
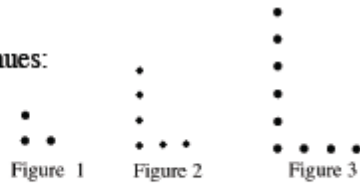
Example

Examine the dot pattern at right. Assuming the pattern continues:

    a. Draw Figure 4.

    b. How many dots will be in Figure 10?

Figure 1   Figure 2   Figure 3

Solution:

The horizontal dots are one more than the figure number and the vertical dots are even numbers (or, twice the figure number).
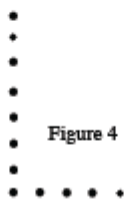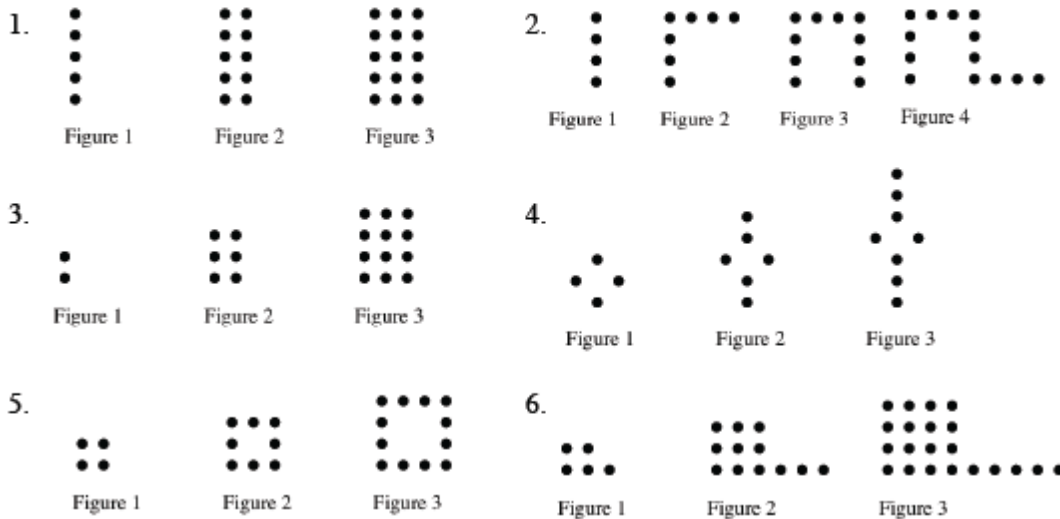
Figure 4

Figure 1 has 3 dots, Figure 2 has 6 dots, and Figure 3 has 9 dots. The number of dots is the figure number multiplied by three.

Figure 10 has 30 dots.

Problems

For each dot pattern, draw the next figure and determine the number of dots in Figure 10.

1.   Figure 1   Figure 2   Figure 3

2.   Figure 1   Figure 2   Figure 3   Figure 4

3.   Figure 1   Figure 2   Figure 3

4.   Figure 1   Figure 2   Figure 3

5.   Figure 1   Figure 2   Figure 3

6.   Figure 1   Figure 2   Figure 3

answers on next page…

Answers

1. 50 dots

Figure 4

2. 31 dots

Figure 5

3. 110 dots

Figure 4

4. 22 dots

Figure 4

5. 40 dots

Figure 5

6. 142 dots

Figure 4