
Buttons

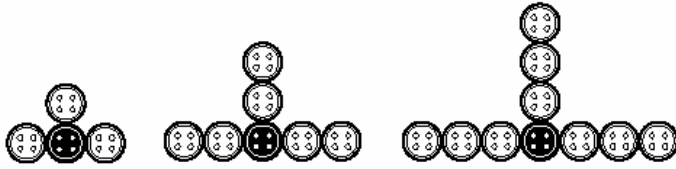
This problem gives you the chance to:

- describe, extend, and make generalizations about a numeric pattern
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Gita plays with her grandmother's collection of black and white buttons.

She arranges them in patterns.

Her first 3 patterns are shown below.



Pattern 1

Pattern 2

Pattern 3

Pattern 4

1. Draw Pattern 4 next to Pattern 3.
2. How many **white** buttons does Gita need for Pattern 5 and Pattern 6?

Pattern 5 _____

Pattern 6 _____

Explain how you figured this out.

3. How many buttons in all does Gita need to make Pattern 11?

Explain how you figured this out.

4. Gita thinks she needs 69 buttons in all to make Pattern 24.

How do you know that she is **not** correct?

How many buttons does she need to make Pattern 24? _____