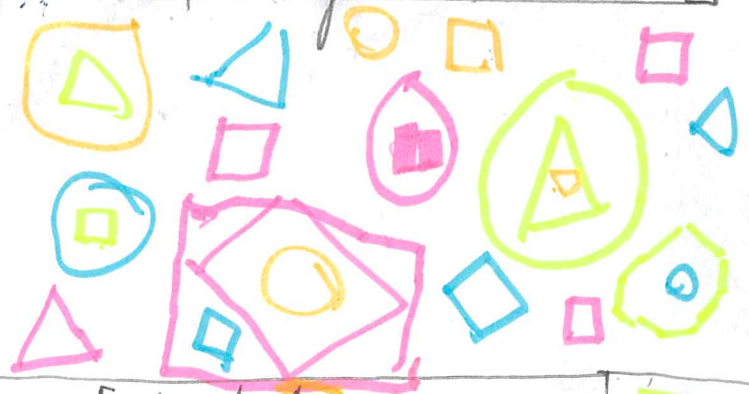


June 1st
- 2023 -

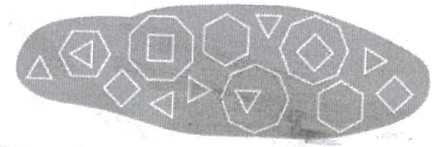
Abram, W.A.S. Tyler



Shapes on the Playground

Age 7 to 11
Challenge Level **

Sally and Ben went outside the school to draw some very large shapes on the tarmac. None of the shapes they drew shared any sides with any other shape - they were all drawn separately although some small shapes were inside larger shapes. The children each had a box of ten sticks of chalk. Each stick drew 10 metres before it was quite worn away. They both drew shapes with all sides one metre long.



Sally drew squares and octagons, sixteen shapes altogether, and used up all her chalk.

How many of each shape did she draw?

Ben drew triangles, hexagons and squares. He drew 20 shapes and still had two sticks of chalk left. How many of each shape did he draw?

- Each Side = 1m -

Octagon → 8m

Triangle → 3m

Square → 4m

Hexagon → 6m

Ben's drawings

Triangles → 3, 6, 9, 12, 15, 18

Hexagons → 6, 12, 18, 24, 30, 36, 42

Squares → 4, 8, 12, 16, 20

2 sticks of chalk = 20m

= 80m used

42
18
+20
80

Sally's drawings

Octagons → 8, 16, 24, 32, 40, 48, 56, 64, 72

Square → 4, 8, 12, 16, 20, 24, 28

72
+28
100

Method:

First, we figured out the perimeter of the shapes. Then, we figured out how many metres was equivalent to one pack. Then, we figured out how many metres were drawn by Sally. We used the same method for Ben. Then, we double checked just to be sure. We then wrote the overall answer.

OVERALL ANSWER

Sally drew 9 Octagons and 7 squares.

Ben drew 6 triangles, 2 hexagons and 5 squares

Info:

1 chalk = 10m

10 x 10 = 100m

1 pack = 10 chalks

1 pack = 100m