Honeybee
MATHEMATICS

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Sample Knowledge Test Questions

1) Look at the equation.

   $12n = 94$

   Work out the value of $120(n+1)$.

   A) 1,000
   B) 1,050
   C) 1,060
   D) 1,100
(Topic: Algebra - 2 marks)

2) A rectangle has a length of 18 cm and a width of 6 cm.
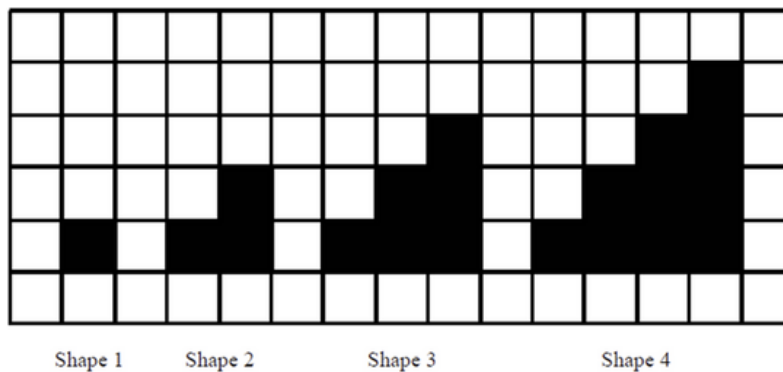   What is **the area of a square** that has the same perimeter as the rectangle?

   A) 120 cm²
   B) 132 cm²
   C) 144 cm²
   D) 156 cm²
(Topic: Geometry - 2 marks)

3) In the diagram below, each small square of the grid is one unit on each side.
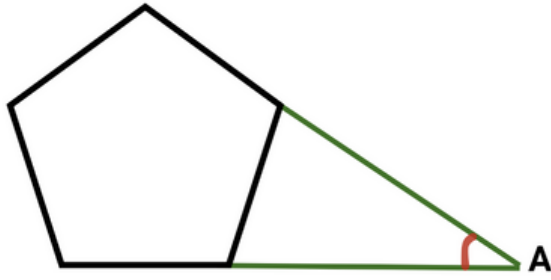   If the pattern continues, how many units would **the perimeter of the 25th shape** be?

Shape 1   Shape 2   Shape 3   Shape 4

   A) 96 units
   B) 98 units
   C) 100 units
   D) 102 units
   (Topic: Algebra - 3 marks)

4) The extended lines from two sides of a regular pentagon intersect at point A, forming a triangle as shown below.

What is the size of the angle at A?
A) 36
B) 44
C) 60
D) 72
(Topic: Geometry - 3 marks)

5) Let x and y be natural numbers such that $2x^2 + 3xy = 44$.
   How many pairs of (x,y) satisfy the equation?
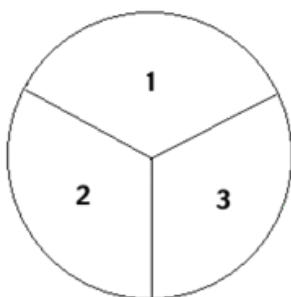
A) 4
B) 3
C) 2
D) 1

(Topic: Number theory - 5 marks)

6) Two spinners with three equal parts are spun, and the numbers obtained are used to form a two-digit number.
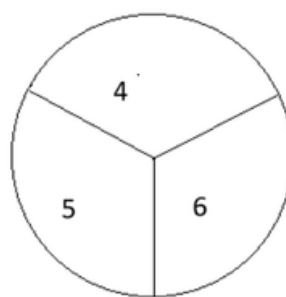(The first digit comes from the first spinner, and the second digit comes from the second spinner.)
What is **the probability of forming a square number**?

First spinner   Second spinner

A)   1/9
B)   2/9
C)   1/3
D)   4/9

(Topic: Probability - 5 marks)