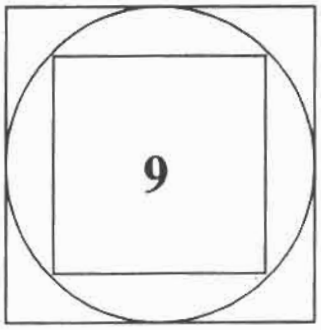
PIMS Elementary Grades Math Competition
29 May 2004
Target Round - Grade Five Division

NAME: _____

SCHOOL: _____

1. The area of the inner square is 9.
What is the area of the outer square ?



_____ 1

2. Calculate: $51^2 - 49^2 =$

_____ 2

3. At a year-end party, each of the 120 kids ate one or more slices of pizza. Of the 120 kids, 70 ate two or more slices of pizza, and 20 of these 70 kids ate three slices of pizza. No kid ate more than three.
How many slices of pizza were eaten ?

_____ 3

4. Suppose that you are given a cube with sides of 1 *cm*. Now you glue new cube with 1 *cm* sides to each of the six faces of your original cube (altogether you glue six new cubes). The seven cubes form a new solid.
What is the surface area of that new solid (in cm^2) ?

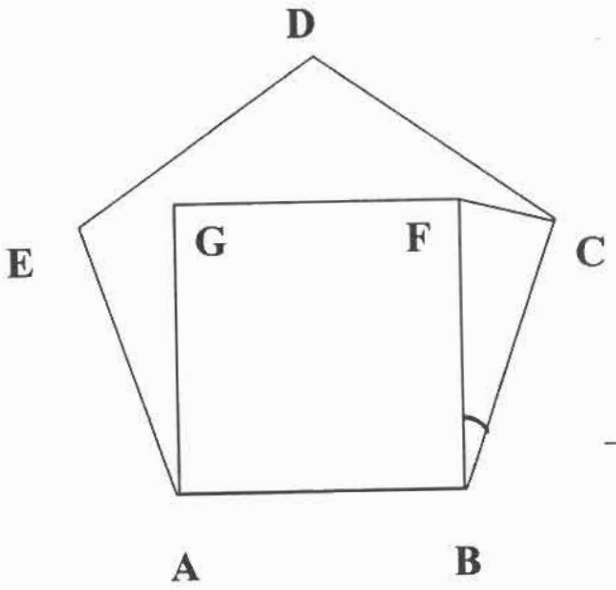
_____ 4

Grade Five (5) Division

5. If each edge of a cube is increased by 40%, by what percentage does the surface area of the cube increases ?

_____ 5

6. In the picture, ABCDE is a regular pentagon and ABFG is a square. Find the angle ∠FBC (in degrees).



_____ 6

7. Ten chocolate bars and five pops cost $12.50.
Two chocolate bars and three pops cost $4.50.
How much do four chocolate bars and one pop cost ?

_____ 7

8. The airplane was full when it left Vancouver.
At the first stop (Kelowna), half of the people got off the plane and 8 got on.
At the next stop (Prince George), half of the people who were on board got off, 11 got on, and the plane was full again.
How many people were on the plane when it left Vancouver ?

_____ 8

Grade Five (5) Division

9. How many four-letter "words" can be made using exactly two A's and two B's, if no two A's can be next to each other ?

_____ 9

10. One side of a rectangle is $\frac{9}{50}$ of the perimeter.
The area of the rectangle is 144 square units.
How many units are in the perimeter ?

_____ 10

11. Joel says to Kevin: "Give me \$100, and I shall become twice as rich as you."
Kevin replies: "Give me \$10, and I shall become six times as rich as you."
How many dollars does Joel have ?

_____ 11

12. A number is called a palindrome if it does not change when the order of the digits is reversed (example: 282).
How many three-digit numbers n are there such that n and 2n are both palindromes ?
(Example: one such number is 141 because both 141 and 282 are palindromes).

_____ 12