NAME:_____

1. Evaluate the following expression:
$\sum_{k=2}^{8}(3k-1)$

[A] 98 [B] 29 [C] 93 [D] 100

2. Evaluate the following expression to three decimal places: $\sum_{k=4}^{6}\left(\frac{3}{5}\right)^{k}$

[A] 0.207 [B] 1.43

[C] 0.254 [D] 0.152

3. Find the sum of the first 15 terms of the sequence –8, –2, 4, 10, ...

[A] 1020 [B] 516 [C] 504 [D] 510

4. Find the sum of the first five terms of the series: $\frac{32}{27}+\frac{16}{9}+\frac{8}{3}+...$

[A] $12\frac{26}{27} \approx 12.963$ [B] $15\frac{17}{27} \approx 15.630$

[C] $14\frac{17}{27} \approx 14.630$ [D] $19\frac{17}{27} \approx 19.630$

5. Compare the quantity in Column A with the quantity in Column B.

Column A	Column B
$\sum_{n=1}^{6}(2n-1)$	$\sum_{n=1}^{6}(n+6)$

[A] The quantity in Column A is greater.

[B] The quantity in Column B is greater.

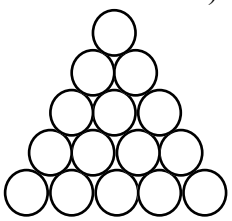
[C] The two quantities are equal.

[D] The relationship cannot be determined on the basis of the information supplied.

6. If 14 points are arranged in a circle, how many lines are needed to join every point to every other point once?

[A] 91 [B] 105 [C] 84 [D] 98

7. A grocery clerk sets up a display of oranges in the form of a triangle using 10 oranges at the base and 1 at the top. (Only part of the display is shown below.)

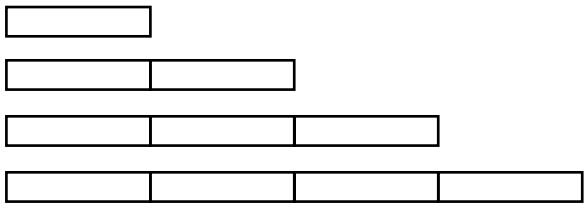


How many oranges were used by the clerk to make the arrangement?

[A] 55 [B] 75 [C] 65 [D] 45

NAME:_____

8. Use the pattern of designs below to form a number pattern showing the total number of rectangles at each step in the pattern.



[A] 1, 3, 5, 9 [B] 1, 3, 4, 5 [C] 1, 3, 6, 10 [D] 1, 2, 3, 4

9. A theater has 20 rows. There are 10 seats in the first row. The number of seats increases by 2 for each succeeding row. Find the total number of seats.

10. This table shows the number of dance classes offered by Beth's Dance Studio over the years.

Year	1993	1994	1995	1996	1997
Number of classes	5	8	11	14	17

Suppose this pattern continues through 1998. Find the total number of classes she will have taught from 1993 through 1998.

[1] A

[2] C

[3] D

[4] B

[5] B

[6] A

[7] A

[8] C

[9] 580 seats

[10] 75