

MDM 4U1
UNIT #2: Counting Techniques – TIPS ASSIGNMENT

TIPS: _____
10



Name: _____

THE FOLLOWING QUESTION IS DIRECTLY RELATED TO THE UNIT YOU ARE CURRENTLY WORKING IN, THOUGH THEY MAY REQUIRE MORE THOUGHT THAN THOSE YOU HAVE ALREADY ENCOUNTERED. PLEASE PROVIDE A FULL, POLISHED SOLUTION IN THE SPACE PROVIDED.

SHOW ALL WORK TO GUARANTEE FULL MARKS

Answer any two of the following three questions worth five marks each:

THINKING	Level 1	Level 2	Level 3	Level 4
Use of planning and processing skills (ex. Making conjectures, modeling, solving the problem, making convincing arguments, reasoning, justifying, proving, reflecting)	Uses planning and processing skills with limited effectiveness	Uses planning and processing skills with some effectiveness	Uses planning and processing skills with considerable effectiveness	Uses planning and processing skills with a high degree of effectiveness
Use of critical/creative thinking processes (ex. Problem solving, inquiry)	Uses critical/creative processing skills with limited effectiveness	Uses critical/creative processing skills with some effectiveness	Uses critical/creative processing skills with considerable effectiveness	Uses critical/creative processing skills with a high degree of effectiveness

- How many natural numbers less than 10 000 have at least one “2” in them?
- How many different 8-letter ‘words’ can be formed using the letters from the word CANADIAN so that the “D” always immediately precedes the “A”?
- How many seven-digit EVEN numbers less than 3 000 000 can be formed using all the digits: 1, 2, 2, 3, 5, 5, 6?