Critical thinking on the following is a list of 25 professions that rely on mathe...

The following list gives the five most practical concepts that would be important to a student planning a career that heavily relies on math:

- Probability

- Matrices

- Vectors

- Functions

- Measure of central tendencies

- Mathematics teacher

- Economist

- Surveyors

- Statisticians

- Physics teacher

- Nutritionist

- Chemist

- Marketers

- Accountants

- Engineers

- Actuarial scientists/ actuary

- Sales agents

- Purchasing agents

- Geologists

- Computer scientists

- Architects

- Property valuation specialists

- Finance specialists

- Research analysts

- Operations officers

- Meteorologists

- Real estate agents

- Underwriters

- Physicists

- Pharmacists

Three key principles learned in the course.

The multiplication principle, the inclusion-exclusion principle and the pigeonhole principle are key mathematical principles applicable in our day to day lives. The multiplication principle is a combinational principle which states that if there are a ways for an activity to occur, and b ways for a second to occur, then there are a*b ways in which both activities can occur (Sweney & Cook, 2010). The inclusion-exclusion principle is another combinational principle sates that if A and B are two finite sets, then the number of elements in the union of the two sets is the sum of the elements in each set minus the number of elements that are in both sets. According to Sweney and Cook (2010) pigeonhole principle states that if n pigeons are put into k pigeonholes, then there exist at least one pigeonhole containing not less than n/k pigeons and at least one pigeonhole with not more than n/k pigeons.

These principles have wide applications in life. The multiplication principle simplifies many life problems such as when determining the possible ways that we can combine colors to give multiple colors that are quite different. It

may also be used in lotteries to establish the probabilities of a participant winning. The inclusion-exclusion principle is applied in assigning tutors in schools to establish the number of students taking common courses, or different courses. The pigeonhole principle is useful in statistics where sampling is an indispensable concept. A specialist in statistics will appreciate this principle because it helps in defining the sample size in order to achieve the desired results.

Works Cited

Sweney, E. S. & Cook, B. D. (2010) Principles of Mathematics. New Jersey: Kendall Hunt Publishing Company.