

# [Addmaths – college essay](https://assignbuster.com/addmaths-college-essay/)

ADDITIONAL MATHEMATICS PROJECT WORK 2/2012 “ INDEX NUMBER” NAME: Lio Xing Ying Class: 5I I. C. No: 950818-13-6166 School: SMK Marudi TEACHER: Miss Tie Yien Mee Teacher’s signature: CONTENT CHAPTERS| TITLES| PAGES| 1| CONTENT| 2| 2| APPRECIATION| 4| 3| OBJECTIVES| 6| 4| INTRODUCTION| 8| 5| PART A| 11| 6| PART B| 15| 7| PART C| 19| 8| PART D| 24| 9| FURTHER EXPLORATION| 26| 10| CONCLUSION| 28| 11| REFLECTION| 30| APPRECIATION First of all, I would like to thank God for giving us energy, strength and health to carry out this project work. Next, I would like to thank our school for giving us the chance to create this project work.

School also provides me the space to discuss and carry out this project work. Not forgetting my beloved parents who provided everything needed in this project work, such as money, Internet, books, computer and so on. They contribute their time and spirit on sharing their experience with me. Their support may raise the spirit in me to do this project work smoothly. After that, I would like to thank our Additional Mathematics teacher, Miss Tie Yien Mee for guiding me throughout this project. When I face some difficulties on doing tasks, she will try her best to teach me patiently until I have done the project work.

Then, I would like to thank the proprietor of the shop who was willing to share their experience on business activity and the experience on saving money with me. Lastly, I would like to thank my classmates who shared ideas and providing some helps on solving problems. We help each other until we finished this project work. OBJECTIVES All of our students in 5I are required to carry out an Additional Mathematics Project Work during mid-term holiday. This project is done individually. Upon completion of the Additional Mathematics Project Work, I gain valuable experiences and able to: \* Solve routine and non-routine problems. Improve thinking skills. \* Knowledge and skills are applied in meaningful ways in solving real-life problems. \* Expressing ones mathematical thinking, reasoning and communication are highly encouraged and expected. \* Stimulates and enhances effective learning. \* Acquire effective mathematical communication through oral and writing and to use the language of mathematics to express mathematical ideas correctly and precisely. \* Enhance acquisition of mathematical knowledge and skills through problem-solving in ways that increase interest and confidence. Prepare ourselves for the demand of our future undertakings and in workplace. \* Realise that mathematics is an important and powerful tool in solving real-life problems and hence develop positive attitude towards mathematics. \* Train ourselves not only to be independent learners but also to collaborate, to cooperate, and to share knowledge in an engaging and healthy environment. \* Use technology especially the ICT appropriately and effectively. \* Train ourselves to appreciate the intrinsic values of mathematics and to become more creative and innovative. Realize the importance and the beauty of mathematics. INTRODUCTION INDEX An index number is a percentage ratio of prices, quantities or values comparing two time periods or two points in time. The time period that serves as a basis for the comparison is called the base period and the period that is compared to the base period is called the given or current period. A price index measures the change in the money value of an item (or group of items) over time whereas a quantity index measures the non-monetary value of an item (or a group of items) over time.

An index number that represents a percentage comparison of the number of cars sold in a given month as compared with that of a base month is a quantity index. A price index represents a comparison of prices between two time periods and, finally, a value index is one that represents a comparison of the total value of production or sales in two time periods without regard to whether the observed difference is a result of differences in quantity, price or both. Index numbers are also differentiated according to the number of commodities or products included in the comparison.

A simple index, also known as a relative, is a comparison involving only one item but an index whose calculation is based on several items is known as an aggregate or composite index. A very famous example of a composite index is the Retail Prices Index (RPI), which measures the changes in costs in the items of expenditure of the average household. In economics and finance, an index is a statistical measure of changes in a representative group of individual data points. These data may be derived from any number of sources, including company performance, prices, productivity, and employment.

Economic indices (index, plural) track economic health from different perspectives. Influential global financial indices such as the Global Dow, and the NASDAQ Composite track the performance of selected large and powerful companies in order to evaluate and predict economic trends. The Dow Jones Industrial Average and the S&P 500 primarily track U. S. markets, though some legacy international companies are included. The Consumer Price Index tracks the variation in prices for different consumer goods and services over time in a constant geographical location, and is integral to calculations used to djust salaries, bond interest rates, and tax thresholds for inflation. The GDP Deflator Index, or real GDP, measures the level of prices of all new, domestically produced, final goods and services in an economy. Market performance indices include the labour market index / job index and proprietary stock market index investment instruments offered by brokerage houses. Some indices display market variations that cannot be captured in other ways. For example, the Economist provides a Big Mac Index that expresses the adjusted cost of a globally ubiquitous Big Mac as a percentage over or under the cost of a Big Mac in the U.

S. with a U. S. dollar (estimated: $3. 57). Norway prices reflect most relatively expensive Big Mac, at an 84% increase over U. S. prices, or $6. 5725 U. S. The least relatively expensive Big Mac price occurs in Hong Kong, at a 52% reduction from U. S. prices, or $1. 71 U. S. The Big Mac index is used to predict currency values. From this example, it would be assumed that Hong Kong currency is undervalued, and provides a currency investment opportunity. An index number is a percentage ratio of prices, quantities or values comparing two time periods or two points in time.

The time period that serves as a basis for the comparison is called the base period and the period that is compared to the base period is called the given or current period. A price index measures the change in the money value of an item (or group of items) over time whereas a quantity index measures the non-monetary value of an item (or a group of items) over time. An index number that represents a percentage comparison of the number of cars sold in a given month as compared with that of a base month is a quantity index.

A price index represents a comparison of prices between two time periods and, finally, a value index is one that represents a comparison of the total value of production or sales in two time periods without regard to whether the observed difference is a result of differences in quantity, price or both. Index numbers are also differentiated according to the number of commodities or products included in the comparison. A simple index, also known as a relative, is a comparison involving only one item but an index whose calculation is based on several items is known as an aggregate or composite index.

A very famous example of a composite index is the Retail Prices Index (RPI), which measures the changes in costs in the items of expenditure of the average household. PART A The school Cooperative in one of the schools in your area made a profit of RM 50000 in the year 2011. The cooperative plans to keep the money in a fixed deposit account in a bank for one year. The interest collected at the end of this period will be the poor students in the school. As a member of Board of Cooperative you are to find the total interest which can be collected from different banks.

Given below are the interest rates offered by 3 different banks: Bank A, Bank B and Bank C. You are to calculate the interest that can be obtained based on the given rates, if the money is to be kept in the bank for a period of one year for monthly auto renewable, three months auto renewable, six months auto renewable and twelve months auto renewable without withdrawal. Compare and discuss which bank will you choose and explain why. PERIOD| BANK A (% p. a. )| BANK B (% p. a. )| BANK C (% p. a. )| 1 MONTH| 3. 10| 3. 00| 3. 00| 2 MONTH| 3. 10| 3. 00| 3. 00| 3 MONTH| 3. 15| 3. 5| 3. 05| 4 MONTH| 3. 15| 3. 05| 3. 05| 5 MONTH| 3. 15| 3. 10| 3. 05| 6 MONTH| 3. 20| 3. 10| 3. 10| 7 MONTH| 3. 20| 3. 10| 3. 10| 8 MONTH| 3. 20| 3. 10| 3. 10| 9 MONTH| 3. 20| 3. 10| 3. 10| 10 MONTH| 3. 20| 3. 10| 3. 10| 11 MONTH| 3. 20| 3. 10| 3. 10| 12 MONTH| 3. 25| 3. 15| 3. 20| Solution by Geometric Progression Solution Tn = arn–1 r = Tn+1Tn a = 50 000 BANK A \* Monthly auto renewable r = 100 + 3. 10100 = 103. 10100 = 1. 0310 T13 = 50 000 x 1. 031013-1 = 50 000 x 1. 031012 = 72 123. 03397 = 72 123. 00 \* Three months auto renewable r = 100 + 3. 15100 = 103. 15100 = 1. 0315

T5 = 50 000 x 1. 03155-1 = 50 000 x 1. 03154 = 56 603. 9754 = 56 604. 00 \* Six months auto renewable r = 100 + 3. 20 100 = 103. 20100 = 1. 0320 T3 = 50 000 x 1. 03203-1 = 50 000 x 1. 03202 = 53 251. 20 \* Twelve months without withdrawal r = 100 + 3. 25100 = 103. 25100 = 1. 0325 T2 = 50 000 x 1. 03252-1 = 50 000 x 1. 03251 = 51 625. 00 Bank B \* Monthly auto renewable r = 100 + 3. 00100 = 103. 00100 = 1. 0300 T13 = 50 000 x 1. 030013-1 = 50 000 x 1. 030012 = 71 288. 04434 = 71 288. 00 \* Three months auto renewable r = 100 + 3. 05100 = 103. 15100 = 1. 0315 T5 = 50 000 x 1. 03055-1 50 000 x 1. 03054 = 56 384. 79279 = 56 384. 80 \* Six months auto renewable r = 100 + 3. 10 100 = 103. 10100 = 1. 0310 T3 = 50 000 x 1. 03103-1 = 50 000 x 1. 03102 = 53 148. 05 = 53 148. 00 \* Twelve months without withdrawal r = 100 + 3. 15100 = 103. 15100 = 1. 0325 T2 = 50 000 x 1. 03152-1 = 50 000 x 1. 03151 = 51 575. 00 BANK C \* Monthly auto renewable r = 100 + 3. 00100 = 103. 00100 = 1. 0300 T13 = 50 000 x 1. 030013-1 = 50 000 x 1. 030012 = 71 288. 04434 = 71 288. 00 \* Three months auto renewable r = 100 + 3. 05100 = 103. 05100 = 1. 0305 T5 = 50 000 x 1. 03055-1 = 50 000 x 1. 3054 = 56 384. 79279 = 56 384. 80 \* Six months auto renewable r = 100 + 3. 10 100 = 103. 10100 = 1. 0310 T3 = 50 000 x 1. 03103-1 = 50 000 x 1. 03102 = 53 148. 05 = 53 148. 00 \* Twelve months without withdrawal r = 100 + 3. 20100 = 103. 20100 = 1. 032 T2 = 50 000 x 1. 0322-1 = 50 000 x 1. 0321 = 51 600. 00 PERIOD| BANK A (RM)| BANK B (RM)| BANK C (RM)| MONTHLY RENEWABLE| 72 123. 00| 71 288. 00| 71 288. 00| THREE MONTHS RENEWABLE| 56 604. 00| 56 384. 80| 56 384. 80| SIX MONTHS RENEWABLE| 53 251. 20| 53 148. 00| 53 148. 00| TWELVE MONTHS RENEWABLE| 51 625. 00| 51 575. 00| 51 600. 0| Therefore, I will choose Bank A because the interest of Bank A is higher than Bank B and Bank C. PART B (a) The Cooperative of your school plans to provide photocopy service to the students of your school. A survey was conducted and it is found out that rental for a photo copy machine is RM 480 per month, cost for a rim of paper (500 pieces) is RM 10 and the price of a bottle of toner is RM 80 which can be used to photocopy 10 000 pieces of paper. (i) What is the cost to photocopy a piece of paper? Solution by Mathematical Solution Rental for photocopy machine/month = RM 480

Cost for a rim of paper (500 pieces) = RM 10 Price of a bottle of toner (10 000 pieces) = RM 80 Cost for a photocopy of a piece of paper = RM 80 + RM 480 + [10 000500 RM 10]10 000 = RM 0. 076 (ii) If your school cooperative can photocopy an average of 10 000 pieces per month and charges a price of 10 cent per piece, calculate the profit which can be obtained by the school cooperative. Solution by Mathematical Method Charge of a piece of photocopy of a paper = RM 0. 10 Cost for a photocopy of a piece of paper = RM 0. 076 Profit obtained = (RM 0. 10 – RM 0. 076)(10 000) = RM 240 b) For the year 2013, the cost for photocopying 10 000 pieces of paper increased due to the increase in the price of rental, toner and paper as shown in table below: (i) Calculate the percentage increase in photocopying a piece of paper based on the year 2012, using two different methods. Solution METHOD 1 by Mathematical Solution Cost of photocopy of a piece of paper in 2013 = RM 100 + RM 500 + RM24010 000 = RM 0. 084 Percentage increase = 0. 084 – 0. 0760. 076 x 100% = 10. 5263% METHOD 2 by Price Index Solution I = P1P0x 100 ? = IWW | Price Index, I| Weightage, W| Rental| 6256| 25| Toner| 125| 5| Paper| 120| 12| = 625625 + 1255 + 1201225 + 5 + 12 = 25015252 = 111. 17 Percentage increase = RM 0. 076 x 111. 17100 – 0. 0760. 076 x 100% = 10. 5263% (ii) If the school cooperative still charge the same amount for photocopying a piece of paper, how many pieces of paper should the cooperative photocopy in order to get the same amount of profit? Solution by Quadratic Equation Solution Pieces of paper should cooperative photocopy 0. 1(x) – 10 000 (0. 084) = 240 0. 1x – 840 = 240 x = 10800. 1 = 10 800 (iii) If the cooperative still maintain to photocopy the same amount of paper per month, how much profit can Cooperative obtain?

Solution by Mathematical Solution Profit obtained = (RM 0. 10)(10 000) – (RM 0. 084)(10 000) = RM 160 PART C The population of the school is increasing. As a result, the school cooperative needs more space for keeping the increasing amount of stock. Therefore the school cooperative plans to expand the store-room. It is estimated that cost for renovation is RM 150 000. Make a conjecture on which is a better way for the school cooperative to pay, whether to pay the whole lump sum in cash or keep the RM 150 000 in a fixed deposit account at a rate of 6% p. a. n a bank then borrow the RM 150 000 from a bank and pay for the hire purchase for a period of 10 years with a interest rate of 4. 8% p. a. and withdraw monthly to pay for the hire purchase every beginning of a month. Make a conclusion and give your reason. (You can give your solution in table form, Excel or graph) Solution by Excel Month| Interest (%)| Total Money (RM)| Interest Rate/year (%)| Loan/month (RM)| Money Left (RM)| 1| 6. 00| 150 000| 4. 80| 1 850. 00| 251 571. 84| 2| | | | 1 850. 00| 249 721. 84| 3| | | | 1 850. 00| 247 871. 84| 4| | | | 1 850. 00| 246 021. 84| 5| | | | 1 850. 0| 244 171. 84| 6| | | | 1 850. 00| 242 321. 84| 7| | | | 1 850. 00| 240 471. 84| 8| | | | 1 850. 00| 238 621. 84| 9| | | | 1 850. 00| 236 771. 84| 10| | | | 1 850. 00| 234 921. 84| 11| | | | 1 850. 00| 233 071. 84| 12| | | | 1 850. 00| 231 221. 84| 13| 6. 00| 159 000. 00| 4. 80| 1 850. 00| 229 371. 84| 14| | | | 1 850. 00| 227 521. 84| 15| | | | 1 850. 00| 225 671. 84| 16| | | | 1 850. 00| 223 821. 84| 17| | | | 1 850. 00| 221 971. 84| 18| | | | 1 850. 00| 220 121. 84| 19| | | | 1 850. 00| 218 271. 84| 20| | | | 1 850. 00| 216 421. 84| 21| | | | 1 850. 00| 214 571. 84| 22| | | | 1 850. 0| 212 721. 84| 23| | | | 1 850. 00| 210 871. 84| 24| | | | 1 850. 00| 209 021. 84| 25| 6. 00| 168 540. 00| 4. 80| 1 850. 00| 207 171. 84| 26| | | | 1 850. 00| 205 321. 84| 27| | | | 1 850. 00| 203 471. 84| 28| | | | 1 850. 00| 201 621. 84| 29| | | | 1 850. 00| 199 771. 84| 30| | | | 1 850. 00| 197 921. 84| 31| | | | 1 850. 00| 196 071. 84| 32| | | | 1 850. 00| 194 221. 84| 33| | | | 1 850. 00| 192 371. 84| 34| | | | 1 850. 00| 190 521. 84| 35| | | | 1 850. 00| 188 671. 84| 36| | | | 1 850. 00| 186 821. 84| 37| 6. 00| 178 652. 40| 4. 80| 1 850. 00| 184 971. 84| 38| | | | 1 850. 00| 183 121. 4| 39| | | | 1 850. 00| 181 271. 84| 40| | | | 1 850. 00| 179 421. 84| 41| | | | 1 850. 00| 177 571. 84| 42| | | | 1 850. 00| 175 721. 84| 43| | | | 1 850. 00| 173 871. 84| 44| | | | 1 850. 00| 172 021. 84| 45| | | | 1 850. 00| 170 171. 84| 46| | | | 1 850. 00| 168 321. 84| 47| | | | 1 850. 00| 166 471. 84| 48| | | | 1 850. 00| 164 621. 84| 49| 6. 00| 189 371. 54| 4. 80| 1 850. 00| 162 771. 84| 50| | | | 1 850. 00| 160 921. 84| 51| | | | 1 850. 00| 159 071. 84| 52| | | | 1 850. 00| 157 221. 84| 53| | | | 1 850. 00| 155 371. 84| 54| | | | 1 850. 00| 153 521. 84| 55| | | | 1 850. 00| 151 671. 4| 56| | | | 1 850. 00| 149 821. 84| 57| | | | 1 850. 00| 147 971. 84| 58| | | | 1 850. 00| 146 121. 84| 59| | | | 1 850. 00| 144 271. 84| 60| | | | 1 850. 00| 142 421. 84| 61| 6. 00| 200 733. 84| 4. 80| 1 850. 00| 140 571. 84| 62| | | | 1 850. 00| 138 721. 84| 63| | | | 1 850. 00| 136 871. 84| 64| | | | 1 850. 00| 135 021. 84| 65| | | | 1 850. 00| 133 171. 84| 66| | | | 1 850. 00| 131 321. 84| 67| | | | 1 850. 00| 129 471. 84| 68| | | | 1 850. 00| 127 621. 84| 69| | | | 1 850. 00| 125 771. 84| 70| | | | 1 850. 00| 123 921. 84| 71| | | | 1 850. 00| 122 071. 84| 72| | | | 1 850. 00| 120 221. 4| 73| 6. 00| 212 777. 87| 4. 80| 1 850. 00| 118 371. 84| 74| | | | 1 850. 00| 116 521. 84| 75| | | | 1 850. 00| 114 671. 84| 76| | | | 1 850. 00| 112 821. 84| 77| | | | 1 850. 00| 110 971. 84| 78| | | | 1 850. 00| 109 121. 84| 79| | | | 1 850. 00| 107 271. 84| 80| | | | 1 850. 00| 105 421. 84| 81| | | | 1 850. 00| 103 571. 84| 81| | | | 1 850. 00| 101 721. 84| 83| | | | 1 850. 00| 99 871. 84| 84| | | | 1 850. 00| 98 021. 84| 85| 6. 00| 225 544. 54| 4. 80| 1 850. 00| 96 171. 84| 86| | | | 1 850. 00| 94 321. 84| 87| | | | 1 850. 00| 92 471. 84| 88| | | | 1 850. 00| 90 621. 84| 89| | | | 1 850. 0| 88 771. 84| 90| | | | 1 850. 00| 86 921. 84| 91| | | | 1 850. 00| 85 071. 84| 92| | | | 1 850. 00| 83 221. 84| 93| | | | 1 850. 00| 81 371. 84| 94| | | | 1 850. 00| 79 521. 84| 95| | | | 1 850. 00| 77 671. 84| 96| | | | 1 850. 00| 75 821. 84| 97| 6. 00| 239 077. 21| 4. 80| 1 850. 00| 73 971. 84| 98| | | | 1 850. 00| 72 121. 84| 99| | | | 1 850. 00| 70 271. 84| 100| | | | 1 850. 00| 68 421. 84| 101| | | | 1 850. 00| 66 571. 84| 102| | | | 1 850. 00| 64 721. 84| 103| | | | 1 850. 00| 62 871. 84| 104| | | | 1 850. 00| 61 021. 84| 105| | | | 1 850. 00| 59 171. 84| 106| | | | 1 850. 0| 57 321. 84| 107| | | | 1 850. 00| 55 471. 84| 108| | | | 1 850. 00| 53 621. 84| 109| 6. 00| 253 421. 84| 4. 80| 1 850. 00| 51 771. 84| 110| | | | 1 850. 00| 49 921. 84| 111| | | | 1 850. 00| 48 071. 84| 112| | | | 1 850. 00| 46 221. 84| 113| | | | 1 850. 00| 44 371. 84| 114| | | | 1 850. 00| 42 521. 84| 115| | | | 1 850. 00| 40 671. 84| 116| | | | 1 850. 00| 38 821. 84| 117| | | | 1 850. 00| 36 971. 84| 118| | | | 1 850. 00| 35 121. 84| 119| | | | 1 850. 00| 33 271. 84| 120| | | | 1 850. 00| 31 421. 84| ? Money is still left after the loan has been paid-out for the period of 10 years.

That mean, keeping the RM 150 000 in a fixed deposit account then borrow the RM 150 000 from a bank is better way to expand the store-room. PART D The cooperative of the school also has another amount of RM 50 000. The cooperative plans to keep the money in a bank. The bank offered a compound interest rate of 3. 5% per annum and a simple interest rate of 5% per annum. Explain the meaning of “ compound interest” and “ simple interest”. Suggest a better way of keeping the money in this bank. State a suitable period for keeping the money for each plan. Explain why. Solution y Dictionary (source: Oxford Advanced Learner’s Dictionary 6th Edition) Compound interest \* Interest that is paid both on the original amount of money saved and on the interest that has been added to it. Simple interest \* Interest that is paid only on the original amount of money that you invested, and not on any interest that is earned. Simple interest is suitable for savings in a short period. It is because of its interest is higher than compound interest and it is paid only on the original amount of money that you invested, and not on any interest that is earned.

For example, when you keep RM50 000 with an interest of 5% for 2 years, then you will gain RM 5 000 after two years. So the total amount in the bank is RM 55 000 after two years. When one keeps RM 50 000 with the interest of 3. 5 % of compound interest for 2 years, then you will gain RM3 561. 25. So the total amount in the bank is RM 53 561. 25 after two years. Compound interest is suitable for savings in a long period. It is because of the original amount of money saved and on the interest that has been added to it. For example, RM50 000 for the plan of 3. 5 % of compound interest plan for 30 years then we will have RM 140 339. 9 in our saving account. But when one keeps RM 50 000 for the plan of 5 % of simple interest for 30 years, then we will only have RM 125 000 in our savings account. Therefore, it is better to save in the compound interest plan account for long-term savings and simple interest for short-term savings. FURTHER EXPLORATION When Ahmad was born, his parents invested an amount of RM 5 000 in the Amanah Saham Bumiputera (ASB) for him. The interest rate offered was 8. 0% p. a. At what age will Ahmad have a saving of RM 50 000, if he keeps the money without withdrawal? Solution by Geometric Progression

Tn = 50 000 r = 100 + 8. 0100 = 1. 08 a = 5 000 Tn = arn-1 Let, Tn > 50 000 5 000 (1. 08n-1) > 50 000 ? 1. 08n-1 > 10 log 1. 08n-1 > log 10 (n-1) log 1. 08 > log 10 n-1 > log10log1. 08 n-1 > 29. 92 n > 30. 92 The least value of n is 31, 31 – 1 = 30. by Excel Terms, Tn| Value of saves| Age of Ahmad| 1| 5000| 0| 2| 5400| 1| 3| 5832| 2| 4| 6298. 56| 3| 5| 6802. 4448| 4| 6| 7346. 640384| 5| 7| 7934. 371615| 6| 8| 8569. 121344| 7| 9| 9254. 651051| 8| 10| 9995. 023136| 9| 11| 10794. 62499| 10| 12| 11658. 19499| 11| 13| 12590. 85058| 12| 14| 13598. 11863| 13| 15| 14685. 6812| 14| 16| 15860. 84557| 15| 17| 17129. 71322| 16| 18| 18500. 09027| 17| 19| 19980. 0975| 18| 20| 21578. 5053| 19| 21| 23304. 78572| 20| 22| 25169. 16858| 21| 23| 27182. 70206| 22| 24| 29357. 31823| 23| 25| 31705. 90369| 24| 26| 34242. 37598| 25| 27| 36981. 76606| 26| 28| 39940. 30734| 27| 29| 43135. 53193| 28| 30| 46586. 37449| 29| 31| 50313. 28445| 30| ? Ahmad will have a saving of RM 50 000 at the age of 30. CONCLUSION After doing research, answering the questions, plan a table and some problem solving, we saw that usage of index number is important in our daily business activity.

It is not just widely use in the business segment but also in banking skills. We learnt a lot of lesson from this Additional Mathematics Project Work such as banking account skills, loaning technique, counting the cost of a product, predict the future plans of money and so on. Without this, shopkeeper will get a lot of loses in the business activity. We would like to thanks the one who contribute the idea of index number to help us a lot in our business activity together in our daily life. REFLECTION

After by spending countless hours, days and night to finish this project in this few weeks, there are several things that I want to say… Additional Mathematics, The killer subject, But when I study hard, It was so easy to understand… Additional Mathematics, You look so interest, So unique from the other subject, That’s why I like you so much… After sacrificing my precious time, Spirit and energy for this project, And now, I realized something important from it! I really love Additional Mathematics, Additional Mathematics, You are my real friend, You are my family, And you are my life… I LOVE ADDITIONAL MATHEMATICS!! ~ THE END ~