**Mat # 420 – Applied Math**

To be used with Personal Finance on-line bundle

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| **Unit Name** | **Lessons** | **Objective** | **Vocabulary** |
| Financial Decision MakingSpending and SavingFinancial Decision Making |  Lesson 1: Needs and Wants | Identify the difference between things needed and things wanted | NeedsWantsOpportunity cost |
| Lesson 2: Opportunity Cost | To make better decisions with your money | ScarcityChoiceNeedWantsValueTrade off |
| Lesson 3: Comparison Shopping | Finding the better buyDetermining better buy vs quality | Opportunity costBest PriceBrick and mortar overheadsEconomies of scaleBulk buying |
| Lesson 4: Making Change | Accurately be able to make change given any dollar/cents cost | CurrencyDenominations |
| Lesson 5: Rounding and Adding | Use mental math to add numbersUse rounding techniques to see if they have enough money to pay for various items | Round upEstimate |
| Employment and IncomeUsing a Personal Financial Plan | Lesson 6: Can I Have a Job? | To understand at what age you can work and for how long?What types of jobs you can do | Fair Labor Standards ActWageHourly rate  |
| Lesson 7: Paycheck | To understand to parts of the paycheck | IncomeExpenseSocial SecurityFederal and State taxesFICAGross payNet payWage salaryMinimum wage |
| Lesson 8: Earning to Spend | Determine how long you need to work to earn spending money | SalaryWageTaxNet payBuying power |
| Lesson 9: Budgets (this lesson might be better before lesson 8) | Learning to budget you money  | BudgetCash flow forecast  |
| Lesson 10: Cash Flow | To understand that cash outflow cannot exceed the cash inflow | Cash flowNet cash flowCash inflowCash outflowOpening balanceClosing balanceOpportunity cost |
| Spending and SavingFinancial Decision MakingSpending and SavingsCredit and Debit | Lesson 11: Balancing a Check Book  | To understand the process of money going in and coming out. | CreditDebitEndorse |
| Lesson 12: Savings | To understand that the paycheck is not the budget.  | Rule of 72Pay yourself firstCD’sInterest ratesLiquidity |
| Lesson 13: Taxation  | To start thinking about taxes in terms of what they are, how they differ from state to state and where they go.  | tax |
| Lesson 14: Sales Tax | To calculate sales tax on items purchasedTo know that sales tax varies from state to state | Sales tax |
| Lesson 15: APR and Monthly Rates | To know what credit cards are charging you for What is ARP | APRLoanInterestStore cardsCredit cards |
| Credit and DebitExternal Influences: Economics Financial Decision Making | Lesson 16: Credit Score | To know how your credit score will affect your life | Credit scoreFICALegislation |
| Lesson 17: Exchange Rates |  Knowing that different countries have and charge different tax ratesHow American money differs from other countries | ImportExportCurrencyExchange rate |
| Lesson 18: Inflation | To know what causes prices to increase and decrease. | InflationSupplyDemandCost pushCost pull |
|  | Lesson 19: Knuckles and Months | To determine how many days in a month  | Days of the month |
| Lesson 20: Car Ownership | To know what is costs to own/maintain a car. | LeasingDown paymentOpportunity costInsuranceSmog certificationSales tax  |
| Lesson 21: Avoiding Scams | To know how to protect yourself from fraud | Identity fraudScamsPharmingPhishing |
| Polynomials | Lesson 1: Add and Subtract Polynomials | To accurately add polynomialsTo accurately subtract polynomials  | MonomialBinomialTrinomialPolynomialLike TermsCoefficient  |
| Lesson 2: Solve 1st Degree Equations | Solve equations containing parenthesis, like terms, and/or variables on both sides | Distributive propertyLike TermsExponent/PowerInverse Operations |
| Lesson 3: Multiplying Polynomials | To accurately multiply monomial X binomialTo accurately multiply binomial X binomial | FactorsProduct |
| Lesson 4: Literal Equations | To solve for a specified variableTo transform formulas | Inverse OperationsFormulaTransform |
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| Factoring | Lesson 1: GCF | To find the GCF of a given polynomialTo write a polynomial as the product of the GCF and a polynomial | Greatest Common FactorFactors |
| Lesson 2: Factoring trinomials of the form x2 + bx + c | To factor a trinomial into 2 binomials (a = 1) | FactoringProductBinomials |
| Lesson 3: Factoring trinomials of the form ax2 + bx + c | To factor a trinomial into 2 binomials (a ≠ 1) | FactoringProductBinomialTrinomial |
| Lesson 4: The Difference of Perfect Squares | To factor a binomial into 2 binomials using the difference of perfect squares | Perfect SquarebinomialDifference of Squares |
|  | Lesson 5: To Factor Completely | To factor polynomials completely using GCF, difference of perfect squares, product/sum or factor by grouping | Factor Completely |
| Graphing | Lesson 1: Horizontal and Vertical Lines | Graph horizontal lines on coordinate planeGraph vertical lines on coordinate plane | Coordinate PlaneOrdered Pairs |
|  | Lesson 2: Slope | To find the slope given 2 coordinates | SlopeOrdered Pairs |
|  | Lesson 3: Parallel & Perpendicular Slopes | Determine if the slope of given lines are parallelDetermine if the slopes of given lines are perpendicular | Slope Intercept FormParallelPerpendicular |
|  | Lesson 4: Graph Linear Equations | Graph a linear equation on the coordinate plane | SlopeY-interceptSolutions |
|  | Lesson 5: Graph Linear Inequalities | Graph a linear inequality on the coordinate plane | Half planeBoundary lineSolutions |
| Scientific Notation | Lesson 1: Converting numbers into scientific notation | To convert a large/small number into scientific notationTo convert a number given in scientific notation back to standard form. | Standard Form |
| Radicals | Lesson 1: Simplify | To simplify non-perfect squares | RadicalPerfect Square |
|  | Lesson 2: Multiply Radicals | Multiply radicals with products written in simplest radical form |  |
|  | Lesson 3: Divide Radicals | Divide radicals leaving answers in simplest radical form and containing no radicals in the denominator. |  |
| Algebraic Fractions | Lesson 1: Simplifying  | To simplify algebraic fractions by factoringTo simplify by multiplying by -1 | SimplifyFactorGCF |
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|  | Lesson 2: Add/Subtract Algebraic Fractions | To add/subtract algebraic fractions (containing common binomial dominators) leaving answers in simplest form. | NumeratorDenominator  |