**Mat # 420 – Applied Math**

To be used with Personal Finance on-line bundle

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| **Unit Name** | **Lessons** | **Objective** | **Vocabulary** |
| Financial Decision Making  Spending and Saving  Financial Decision Making | Lesson 1: Needs and Wants | Identify the difference between things needed and things wanted | Needs  Wants  Opportunity cost |
| Lesson 2: Opportunity Cost | To make better decisions with your money | Scarcity  Choice  Need  Wants  Value  Trade off |
| Lesson 3: Comparison Shopping | Finding the better buy  Determining better buy vs quality | Opportunity cost  Best Price  Brick and mortar overheads  Economies of scale  Bulk buying |
| Lesson 4: Making Change | Accurately be able to make change given any dollar/cents cost | Currency  Denominations |
| Lesson 5: Rounding and Adding | Use mental math to add numbers  Use rounding techniques to see if they have enough money to pay for various items | Round up  Estimate |
| Employment and Income  Using 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 Act  Wage  Hourly rate |
| Lesson 7: Paycheck | To understand to parts of the paycheck | Income  Expense  Social Security  Federal and State taxes  FICA  Gross pay  Net pay  Wage salary  Minimum wage |
| Lesson 8: Earning to Spend | Determine how long you need to work to earn spending money | Salary  Wage  Tax  Net pay  Buying power |
| Lesson 9: Budgets (this lesson might be better before lesson 8) | Learning to budget you money | Budget  Cash flow forecast |
| Lesson 10: Cash Flow | To understand that cash outflow cannot exceed the cash inflow | Cash flow  Net cash flow  Cash inflow  Cash outflow  Opening balance  Closing balance  Opportunity cost |
| Spending and Saving  Financial Decision Making  Spending and Savings  Credit and Debit | Lesson 11: Balancing a Check Book | To understand the process of money going in and coming out. | Credit  Debit  Endorse |
| Lesson 12: Savings | To understand that the paycheck is not the budget. | Rule of 72  Pay yourself first  CD’s  Interest rates  Liquidity |
| 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 purchased  To 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 | APR  Loan  Interest  Store cards  Credit cards |
| Credit and Debit  External Influences: Economics  Financial Decision Making | Lesson 16: Credit Score | To know how your credit score will affect your life | Credit score  FICA  Legislation |
| Lesson 17: Exchange Rates | Knowing that different countries have and charge different tax rates  How American money differs from other countries | Import  Export  Currency  Exchange rate |
| Lesson 18: Inflation | To know what causes prices to increase and decrease. | Inflation  Supply  Demand  Cost push  Cost 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. | Leasing  Down payment  Opportunity cost  Insurance  Smog certification  Sales tax |
| Lesson 21: Avoiding Scams | To know how to protect yourself from fraud | Identity fraud  Scams  Pharming  Phishing |
| Polynomials | Lesson 1: Add and Subtract Polynomials | To accurately add polynomials  To accurately subtract polynomials | Monomial  Binomial  Trinomial  Polynomial  Like Terms  Coefficient |
| Lesson 2: Solve 1st Degree Equations | Solve equations containing parenthesis, like terms, and/or variables on both sides | Distributive property  Like Terms  Exponent/Power  Inverse Operations |
| Lesson 3: Multiplying Polynomials | To accurately multiply monomial X binomial  To accurately multiply binomial X binomial | Factors  Product |
| Lesson 4: Literal Equations | To solve for a specified variable  To transform formulas | Inverse Operations  Formula  Transform |
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| Factoring | Lesson 1: GCF | To find the GCF of a given polynomial  To write a polynomial as the product of the GCF and a polynomial | Greatest Common Factor  Factors |
| Lesson 2: Factoring trinomials of the form x2 + bx + c | To factor a trinomial into 2 binomials (a = 1) | Factoring  Product  Binomials |
| Lesson 3: Factoring trinomials of the form ax2 + bx + c | To factor a trinomial into 2 binomials (a ≠ 1) | Factoring  Product  Binomial  Trinomial |
| Lesson 4: The Difference of Perfect Squares | To factor a binomial into 2 binomials using the difference of perfect squares | Perfect Square  binomial  Difference 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 plane  Graph vertical lines on coordinate plane | Coordinate Plane  Ordered Pairs |
|  | Lesson 2: Slope | To find the slope given 2 coordinates | Slope  Ordered Pairs |
|  | Lesson 3: Parallel & Perpendicular Slopes | Determine if the slope of given lines are parallel  Determine if the slopes of given lines are perpendicular | Slope Intercept Form  Parallel  Perpendicular |
|  | Lesson 4: Graph Linear Equations | Graph a linear equation on the coordinate plane | Slope  Y-intercept  Solutions |
|  | Lesson 5: Graph Linear Inequalities | Graph a linear inequality on the coordinate plane | Half plane  Boundary line  Solutions |
| Scientific Notation | Lesson 1: Converting numbers into scientific notation | To convert a large/small number into scientific notation  To convert a number given in scientific notation back to standard form. | Standard Form |
| Radicals | Lesson 1: Simplify | To simplify non-perfect squares | Radical  Perfect 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 factoring  To simplify by multiplying by -1 | Simplify  Factor  GCF |
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|  | Lesson 2: Add/Subtract Algebraic Fractions | To add/subtract algebraic fractions (containing common binomial dominators) leaving answers in simplest form. | Numerator  Denominator |