Essential Math 30S – Formula Sheet

**Part A: Interest and Credit**

Simple Interest:

***I***

or

***t***

***r***

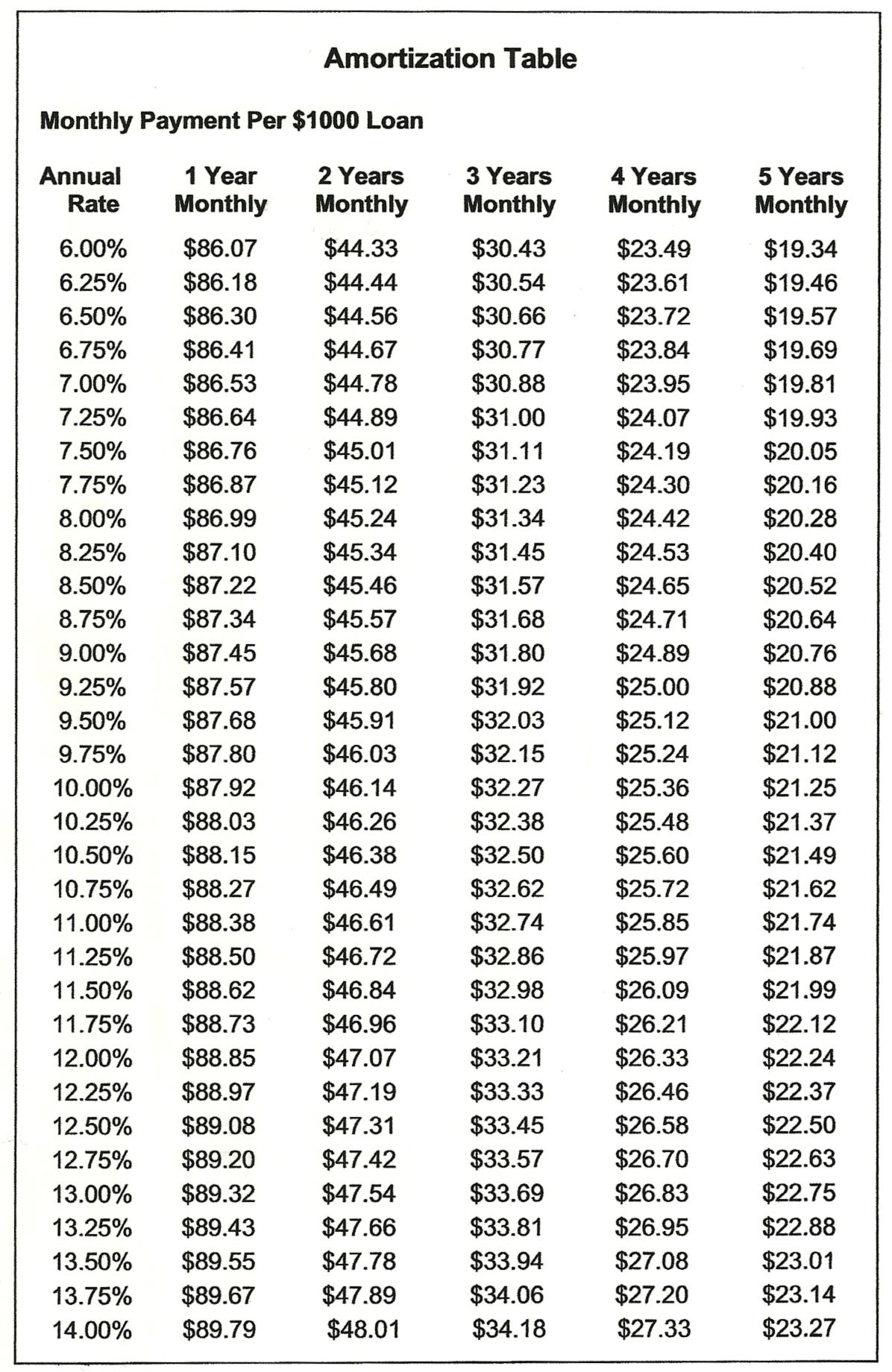
***P***

Compound Interest:

Rule of 72:

Personal Loans:

**Amortization Table**



**Part D: Patterns and Relations**

Slope:

*1*

*1*

*2*

*2*

Equation of a Line:

**Part E: Trigonometry**

B

\*Angles inside a triangle add up to 180°.

*c*

*a*

Pythagorean Theorem:

C

A

*b*

Trigonometric Ratios:

**Part F: Geometry**

|  |  |  |
| --- | --- | --- |
| **GEOMETRIC FIGURE** | **SURFACE AREA** | **VOLUME** |
| CUBE  *s* | SA = 6s2 | V = s3 |
| RECTANGULAR PRISM  *h*  *w* | SA = 2w + 2h + 2wh | V = wh |
| TRIANGULAR PRISM  *a*  *c*  *h*  *b* | SA = bh + (a + b + c) | V = bh x |
| CYLINDER  *r*  *h* | SA = 2πr2 + 2πrh | V = πr2h |
| SQUARE PYRAMID  *h*  *s*  *b*  *b* | SA = 2bs + b2 | V = b2h |
| CONE  *s*  *h*  *r* | SA = πr2 + πrs | V =πr2h |
| SPHERE  *r* | SA = 4πr2 | V = πr3 |

METRIC

**X 1000**

**X 100**

**X 10**

**meter (m)**

**litre (L)**

**gram (g)**

**centi**

**milli**

**kilo**

**÷ 1000**

**÷ 10**

**÷ 100**

IMPERIAL

**X 3**

**X 1760**

**X 12**

**inch (in)**

**foot (ft)**

**mile (mi)**

**yard (yd)**

**÷ 12**

**÷ 3**

**÷ 1760**

|  |  |
| --- | --- |
| **METRIC** | **IMPERIAL** |
| *Length* | |
| 1 mm | 0.0394 in |
| 1 cm = 10 mm | 0.3937 in |
| 1 m = 100 cm | 1.0936 yd |
| 1 km = 1000 m | 0.6214 mi |
| 2.54 cm | 1 in |
| 0.3048 m | 1 ft = 12 in |
| 0.9144 m | 1 yd = 3 ft = 36 in |
| 1.6093 km | 1 mi = 1760 yd = 5280 ft |
| *Area* | |
| 1 cm2 | 0.1550 in2 |
| 1 m2 | 10.76391 ft2 |
| 1 m2 | 1.1960 yd2 |
| 1 km2 | 0.3861 mi2 |
| 6.4516 cm2 | 1 in2 |
| 0.0929 m2 | 1 ft2 = 144 in2 |
| 0.8361 m2 | 1 yd2 = 9 ft2 = 1296 in2 |
| 2.59 km2 | 1 mi2 |
| *Volume* | |
| 1 cm3 | 0.0610 in3 |
| 1 m3 | 35.3147 ft3 |
| 1 m3 | 1.30795 yd3 |
| 16.4 cm3 | 1 in3 |
| 0.0283 m3 | 1 ft3 |
| 0.765 m3 | 1 yd3 |

|  |  |
| --- | --- |
| **METRIC** | **IMPERIAL** |
| *Capacity* | |
| 28.41 mL | 1 oz |
| 56.26 mL | 1 pint |
| 1 L | 1000 cm3 |
| 1000 L | 1 m3 |
| 1.1365 L | 1 quart = 2 pints |
| 4.546 L | 1 gallon = 2 quarts |
| *Mass* | |
| 1 kg = 1000 g | 2.2 pounds |
| 454 g | 1 pound = 16 oz |
| 28.4 g | 1 oz |

|  |  |
| --- | --- |
| **METRIC** | **METRIC** |
| *Capacity* | |
| 1 ml | 1 cm3 |
| 1 L | 1000 cm3 |
| 1000 L | 1 m3 |

|  |  |
| --- | --- |
| **IMPERIAL** | **IMPERIAL** |
| *Capacity* | |
| 6.25 gallons | 1 ft3 |
| *Mass* | |
| 0.5787 fl oz | 1 in3 |

**Part G: Design Modelling**

Scale Factor:

2D Geometry:

