

Elementary Number Sense

Problem Sequencing Crosswalk

(Adapted from https://www.uitexas.org/files/academics/aplus/APlus_NumberSense_SequenceChart_rev1617.pdf)

Problems 1 – 20 (55 mastery skills from Number Dojo)

- 1. Addition, subtraction, multiplication, & division of whole numbers**
 - AddWhole, SubWhole, MultWhole, DivWhole, AddAssocPr, MultWhole3Num, Div9, DivDouble1st, DivMultiples, DivWhole3Num, EstMultWhole
- 2. Recognizing place value**
 - PlaceValue
- 3. Rounding off whole numbers**
 - Round
- 4. Multiplication short-cuts**
 - Mult5, Mult11, Mult11var, Mult12, Mult12-19, Mult15, Mult25, Mult50, Mult75, Mult101, Mult90-99, Mult101-109, Mult101var, Mult125, MultNear100+-, Mult10sU+10, MultDistribPr, MultDistrib2, MultEnd5, MultUs10+10, DiffSquares1, Square11-20
- 5. Remainder type problems**
 - RemainDiv5, RemainDiv4, RemainDiv9, RemainDiv3, RemainOther
- 6. Even & odd whole number type problems**
 - OddEven
- 7. Expanded notation**
 - ExpandNota
- 8. Sums of whole numbers with regrouping**
 - AddSequence, AddSeqOdd, AddSeqEven, AddSeqConsec, EstAddWhole
- 9. Differences of whole numbers with regrouping**
 - SubRev2Digit, SubRev3Digit, AddSubWhole, EstAddSub, EstSubWhole
- 10. Roman numerals/Arabic numbers conversion**
 - ArabicToRoman, RomanToArabic, RomanOper

Problems 21 – 40 (58 mastery skills from Number Dojo)

- 1. Addition/subtraction of fractions with common denominators**
 - AddFracSame, SubFracSame
- 2. Addition, subtraction, multiplication, & division of decimal fractions**
 - AddDeci, SubDeci, MultDeci, DivDeci, MultFrac, DivFrac, DivWholeDeci, MultFracWhole, EstMultFrac, EstMultDeci, EstDivDeci, EstDivFrac
- 3. Comparing decimals & fractions**
 - CompareDeciF, CompareFrac
- 4. Conversion problems (either way): fraction/decimal, percent/fraction, percent/decimal**
 - Conv%toFrac, ConvFrac%, Conv%FtoFrac, ConvDeci%, ConvDeciFrac, ConvFracDeci, Conv%toDeci, Div80, RepDec.abab
- 5. Order of operations**
 - OrderOfOper, OrderOfOper2, OrderOfOperF, EstOrderOfOp, EstMultDistr2
- 6. More multiplication short-cuts**
 - Double/Half, Mult25var
- 7. Ratio/proportion**
 - Ratio, FindMeanAvg
- 8. Consumer type problems**
 - ConvMoney, MoneyRatio, MoneyDiscount, DozenGross, MoneyCalc
- 9. Problems about prime numbers**
 - Prime, PrimeFactor, NumPosIntDiv, AddPosIntDiv, PrimeTwin
- 10. Greatest common divisor (gcd) & least common multiple (lcm)**
 - FindGCF, FindLCM, MultGCF, LCM
- 11. Conversion problems (either way): length, measurements, time**
 - ConvDistance, ConvVolume, ConvTime, ConvSpeed, ConvGalToInch, ConvMetric, ConvWeight, EstConvTime
- 12. More Remainder type problems**
 - RemainDiv11, RemainExpress, RemainExpo

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Problems 41 – 60

(56 mastery skills from Number Dojo)

- 1. Addition, subtraction, multiplication & division of fractions and mixed numbers**
 - AddDeciFrac, AddFracDiff, AddFracRecip, AddMixDiff, SubFracDiff, Multa*a/b, MultFrac100, MultFracWhol2, SubMixSame, SubMixDiff, MultMixF+1, MultMixDiff, MultMixSameF, MultMixWhole, DivMix
- 2. Substitution problems**
 - SubstDirect, SubstRatio
- 3. Perimeter/area of: square, rectangle, triangle**
 - Squares, Rectangle, Triangles, PolygonSides
- 4. Radius/diameter of a circle**
 - Circles
- 5. Powers & roots of numbers**
 - MultPowers2&5, Square21-30, Exponent, CubesPowers, SquareEnd5, SquareRoot, CubeRoot
- 6. Solving simple equations**
 - SolveX
- 7. Sequences**
 - SeqNextTerm, SeqNthTerm
- 8. Sets**
 - SetsElements, SetsIntersect, SetsUnion, SetsUnion+Int, SetsSubsets, SetsProperImp
- 9. Word problems**
 - SolveXWord
- 10. Volume of cube/rectangular box**
 - CubesSolid, Prism
- 11. Right triangle problems**
 - TriangleRight
- 12. More multiplication short-cuts**
 - Mult111, Mult1001, Mult143, FOIL2by2Digit
- 13. Base systems conversions**
 - BaseNtoBase10, Base10toBaseN, Base2toBase4, Base4toBase2, Base8toBase2, *Base2toBase8*, *Base3toBase9*, *Base9toBase3*, BaseAdd, BaseSub

Problems 61 – 80

(56 mastery skills from Number Dojo)

- 1. Addition, subtraction, multiplication & division of integers**
 - EstMult3Close, EstMult142857, EstDivWhole
- 2. Inverses**
 - Reciprocal, FindInvAdd
- 3. Basic geometry facts**
 - AngleCompSupp, AngleExterior, AngleInterior, Polyhedron, Sphere
- 4. More area problems**
 - ConvAcreMile, ConvDistArea
- 5. Squaring two-digit numbers**
 - Square31-40, Square41-50, Square51-60, Square90-99, Square2Digit
- 6. More multiplication short-cuts**
 - Mult75var, Mult125var, Mult990-999, Mult1001-1009, MultDecInt9-1
- 7. More powers and roots of numbers**
 - DiffSquares2, AddSquareTrip, AddSquareDoub, EstSquare, EstHighPower, EstPiPower, Pythagorean, SquareRoot2, SquareRootMix, EstSquareRoot, SolveXSqRoot
- 8. More consumer type problems**
 - ConvCelsFahr, ConvFahrCels, MoneyInterest
- 9. Inequalities**
 - Inequality
- 10. Probability**
 - ProbCoin, ProbDice, ProbDeckCards, ProbOther, OddsDice
- 11. More area problems: parallelogram, rhombus, trapezoid**
 - Parallelogram, Rhombus, Trapezoid
- 12. Coordinate geometry – number line**
 - GeomCartesian, Midpoint2Pts, NumberLine, GreatestInteg
- 13. More percent type problems**
 - Mult%, Mult%2, EstMult%, Percent<Than, Percent>Than, PercentAis%, PercentAisB%