1. List three professions that use diagrams as a way to visualize and/or convey information.
2. ENGINEERS
3. ARCHITECTS
4. *Add your own*
5. A diagram can show POSITIONAL relationships far more easily and clearly than a verbal description can.
6. A diagram can help clarify ideas and solve problems that lend themselves to visual REPRESENTATIONS.
7. A SYSTEM is any procedure that allows you to do something, such as organize information, in a methodical way.
8. The benefit of making systematic lists is that it allows you to FREEZE an entry in the list while you work on the other entries until you’ve exhausted all the possibilities.
9. A TREE diagram is a type of systematic list in which options are shown in a branching structure.
10. The connecting lines in a tree diagram represent different PROCESSES or RELATIONSHIPS.
11. When using the eliminating possibilities strategy, you seek CONTRADICTIONS by making an assumption, applying the assumption, and evaluating the outcome. If the outcome shows that the assumption was incorrect, you ELIMINATE the assumption as a possibility and move on. If the assumption is correct, all you know is that an existing possibility is STILL a possibility.
12. A MATRIX is a table that allows you to organize the information in a problem into rows and columns where each cell shows the one-to-one correspondence between the categories represented by the intersecting row and column. Matching the row information to the associated column information, or vice versa, requires clues and logic.
13. Matrix logic is a strategy based on things that CANNOT be and so it facilitates ideas from the ELIMINATING possibilities strategy.
14. Cross-correlations is a substrategy for finding correspondence in a matrix. List three other substrategies for finding correspondences.
15. ADJUNCT LIST
16. MARKING TRAITS
17. SUBSTITUTION
18. COMBINING CLUES
19. MAKE AN ASSUMPTION
20. A ONE-TO-ONE correspondence is a linking of elements such that for each and every element of one set, there is exactly one element of another set, with no duplication in either set.
21. CROSS-CORRELATIONS use logic to make a connection between two categories based on the connection that each category has with another category. For example, Jane has a red car, the red cars in the lot are sports cars, therefore, JANE HAS A SPORTS CAR. (this phrase is not in the word bank)
22. Making a(n) ASSUMPTION benefits you only if you can prove it is INCORRECT.
23. Guess-and-check is a strategy for solving a problem by making, REFINING, and keeping track of estimations in an organized chart.
24. SPATIAL ORGANIZATION is a problem-solving theme where you organize information spatially. Draw a Diagram, Draw Venn Diagrams.
25. ORGANIZING INFORMATION is a problem-solving theme where you arrange information into a table or list. Systematic List, Guess-n-Check, Unit Analysis.
26. CHANGING FOCUS is a problem-solving theme where you focus on an interim goal or goals rather than on the whole problem. Subproblems, Working Backwards.
27. When using the subproblems strategy, you first move your FOCUS away from the main problem you are working with and instead concentrate on achieving one or more SUBGOALS.
28. ONE-N-O is a fraction that equals one and is used in converting units. For example .
29. Unit conversion is a method of changing units by CANCELING, or multiplying by a ONE-N-O with the original unit in the denominator and a different unit in the numerator.
30. The RECIPROCAL of a number is the multiplicative inverse of a fraction, which means the number and its reciprocal multiplied together equal one.
31. A(n) MANIPULATIVE is an object that can be moved or positioned and is used to represent an element of a problem. You can use these objects in unit analysis by writing one-n-o values on one side of an index card with the reciprocal on the reverse side.
32. List three methods for making a problem easier…
    1. Use a number instead of a variable.
    2. Use a smaller or easier number in place of a more difficult one in order to develop the process for solving the problem.
    3. Do a set of specific easier problems and look for a pattern.
    4. Do a specific easier example and figure out an easier process that will work to solve the problem.
    5. Change, fix, or get rid of some conditions.
    6. Eliminate unnecessary information.
33. Working backwards requires you to change your FOCUS and consider the whole problem in REVERSE.
34. A diagram helps you VISUALIZE working with fractions in REVERSE.
35. A(n) SET is a collection of particular things.
36. Each individual thing in a set is called a member or a(n) ELEMENT.
37. A(n) SUBSET is a set contained within a set.
38. A set is composed of one or more ELEMENTS, except an empty or null set, which has zero elements.
39. In a Venn diagram, all the CHARACTERISTICS of an outer loop apply to everything within that loop, including other loops and portions of other loops.
40. DISJOINT sets are sets that have no elements in common.
41. The UNIVERSAL set in a give problem is the set of all possible elements.
42. A Venn diagram is a diagram with BOUNDED regions where each region contains elements that share a CHARACTERISTIC.
43. Diagrams help you VISUALIZE a problem and set up a(n) EQUATION.
44. Algebra is a language that can help you ORGANIZE and COMMUNICATE information.
45. A guess-and-check chart shows RELATIONSHIPS and OPERATIONS that often lead to a(n) EQUATION.
46. Algebra is a strategy for solving a problem using VARIABLES and EQUATIONS.