

## VR Problem 6

On a certain day I ate lunch at Tommy's, took out 2 books from the library (The Sea Wolf and Martin Eden, both by Jack London), visited the museum and had a cavity filled. Tommy's is closed on Wednesday, the library is closed on weekends, the museum is only open Monday, Wednesday, and Friday, and my dentist has office hours Tuesday, Friday, and Saturday. On which day of the week did I do all these things?

## VR Problem 7

Boris, Irwin and Steven are engaged in the occupations of librarian, teacher, and electrician, although not necessarily in that order. The librarian is Steven's cousin. Irwin lives next door to the electrician. Boris, who knows more facts than the teacher, must drive 45 minutes to visit Irwin's house.

What is each man's occupation?

## VR Problem 8

Sally loaned \$7 to Betty. But Sally borrowed \$15 from Estella and \$32 from Joan. Moreover, Joan owes \$3 to Estella and \$7 to Betty. One day the women got together at Betty's house to straighten out their accounts. Which woman left with \$18 more than she came with?

## VR Problem 9

Lester has 12 times as many marbles as Kathy. John has half as many as Judy. Judy has half as many as Lester. Kathy has 6 marbles. How many marbles each do Lester and John have? You do not need to use algebra to solve this problem.

## Six Myths about Reading

1. Don't subvocalize when you read
2. Read only the key words
3. Don't be a word-by-word reader
4. Read in thought groups
5. You can read at speeds of 1000 or more words a minute – without any loss of comprehension
6. Don't regress or re-read

There are no short cuts to comprehension!

## Analogies

- Analogy in communication promotes understanding.
- Use of analogy in nature supports creative problem solving (mechanical inventions from biological analogy)

## Analogy and Problem Solving

Working analogy problems requires

- Spelling out ideas fully
- Formulating precise relationships of facts
- Developing correspondences between ideas
- Comparing relationships for similarities and differences

These skills are central to all problem solving.

## Simple Analogy Example

*Gills* are related to *fish* as *lungs* are related to *humans*.

Restate:

- *Gills* are used for breathing by *fish*.
- *Lungs* are used for breathing by *humans*.
- (Where did “used for breathing” come from?)

Define a “relationship sentence”:

- \_\_\_\_\_ are used for breathing by \_\_\_\_\_.

## Analogy 1

The key issue in analogy problems is picking the proper relationship sentence.

*Carpenter is to saw as plumber is to wrench.*

- A \_\_\_\_ is a \_\_\_\_.
- A \_\_\_\_ cuts wood with a \_\_\_\_.
- A \_\_\_\_ uses a tool called a \_\_\_\_.

## Analogy 2

*Stewardess is to airplane as waitress is to restaurant.*

- A \_\_\_\_ is a(n) \_\_\_\_.
- A \_\_\_\_ works in a(n) \_\_\_\_.
- A \_\_\_\_ gives safety instructions in a(n) \_\_\_\_.

## Analogy 3

*Guitar is to pick as fiddle is to bow.*

- A \_\_\_\_ is played with a \_\_\_\_.
- A \_\_\_\_ is plucked with a \_\_\_\_.
- A \_\_\_\_ is a \_\_\_\_.

## Analogy 4

*Fence is to garden as bumper is to car.*

- A \_\_\_\_ helps protect a \_\_\_\_.
- A \_\_\_\_ keeps trespassers out of a \_\_\_\_.
- A \_\_\_\_ surrounds a \_\_\_\_.

## Analogy 5

20 is related to 10 as 50 is related to 40.

- \_\_\_\_\_ is ten more than \_\_\_\_\_.
- \_\_\_\_\_ is twice \_\_\_\_\_.
- \_\_\_\_\_ is one-half of \_\_\_\_\_.

## Analogy 6

50 is related to 48 as 67 is related to 64.

- \_\_\_\_\_ is two more than \_\_\_\_\_.
- \_\_\_\_\_ is larger than \_\_\_\_\_.
- \_\_\_\_\_ is smaller than \_\_\_\_\_.

## Define the Relationships

- *Mouth is to talk as hand is to grasp.*
- 6 is related to 2 as 21 is related to 7.
- 70 is related to 30 as 35 is related to 15.
- *Arrive is to depart as find is to lose.*
- *Roots are to plant as mouth is to animal.*
- *Peacock is to bird as tuxedo is to suit.*
- 50 is related to 20 as 90 is related to 60.

## Standard Test Analogy Problems

Now we look at the standard form of analogy problems on tests.

- One pair is given, you pick another pair that has the same relationship.
- It helps if you can define a relationship sentence.



## Analogy 1

*Thermometer is to temperature as  
\_\_\_\_\_ is to \_\_\_\_\_.*

- a) telescope : astronomy
- b) clock : minutes
- c) scale : weight
- d) microscope, biologist

## Analogy 2

*Horse is to animal as \_\_\_\_\_ is to \_\_\_\_\_.*

- a) cow : milk
- b) farm : pig
- c) oak : wood
- d) saddle : stallion

## Analogy 3

2 is to 6 as \_\_\_\_\_ is to \_\_\_\_\_.

- a) 6 : 2
- b) 3 : 1
- c) 12 : 36
- d) 12 : 60

## Analogy 4

• *Pack* is to *wolves* as \_\_\_\_\_ is to \_\_\_\_\_.

- a) wheel : spokes
- b) garage : cars
- c) alphabet : letters
- d) aquarium : fish

## Analogy 5

Same idea, just a different format.

\_\_\_\_\_ is to dollar as year is to \_\_\_\_\_.

- a) money : calendar
- b) dime : month
- c) penny : century
- d) savings : century

## Analogy 6

Try each choice. If the relationships are different, the answer is wrong. If the relationships are unclear, then hold the answer to reconsider.

\_\_\_\_\_ is to *cave* as *car* is to \_\_\_\_\_.

- a) Stone : steel
- b) Primitive : modern
- c) Apartment house : horse
- d) Modern : primitive