Evaluation: 92 Questions   **Name:** _____

Important Instructions

1. Read all the instructions and both sides of all pages.
2. Manage your time when answering questions on this test.
   Answer the questions you know, first.

_____

Multiple Choice - 92 Questions

This is a practice test containing many practice questions. The real test will contain some questions similar to these. There are probably many more questions in this practice test than there will be time for in the real test. The real test will have approximately one question per minute.

The real test may have some questions unlike anything given here. Knowing the concepts behind the questions is necessary; memorizing these specific answers won't help.

The answers to this test are in the Answer Key on the last page(s).

1. What is in the file **x** after this command sequence:
   ```
   echo foo >a ; rm b ; echo bar >>b ; cp a b >x
   ```
   a. nothing - empty file - no data
   b. **bar**
   c. no such file (nonexistent)
   d. **foo**
   e. **foo** followed by **bar**

2. Given an existing file of yours named **/a/b/x**, what is the output of this sequence of three shell commands:
   ```
   echo hi >/a/b/x ; wc /a/b/x >/a/b/x ; cat /a/b/x
   ```
   a. **1 1 3 /a/b/x**
   b. no output on screen
   c. **1 1 2 /a/b/x**
   d. **1 1 1 /a/b/x**
   e. **0 0 0 /a/b/x**

3. What is in file **cow** after running this **bash** shell command line?
   ```
   echo one two >cow three
   ```
   a. **echo one two**
   b. **one two three**
   c. **one two cow three**
   d. **one two**
   e. nothing - empty file

4. Which of the command lines below can generate a non-empty file?
   a. **head -5 /a/b >/a/b**
   b. **cat /a/b /a/b /a/b >/a/b**
   c. **wc -l /a/b >/a/b**
   d. **sort /a/b >/a/b**
   e. **tail /a/b >/a/b**

5. How many arguments does the shell pass to this **echo** command:
   ```
   echo " 1 2 " three ' 4 ' five"6"
   ```
   a. Three arguments.
   b. Five arguments.
   c. Nine arguments.
   d. Four arguments.
   e. One argument.

6. If file **/a** contains 40 lines, and file **/b** contains 60 lines, then how many lines are output by this command: **sort /a /b | cat /a | cat /b**
   a. **40**
   b. **60**
   c. **100**
   d. **200**
   e. **160**

7. How many lines are in file **out** after this bash shell command line?
   ```
   echo hi >dog >cat >out
   ```
   a. **3**
   b. **1**
   c. **2**
   d. no such file (file does not exist)
   e. **0 (empty file)**

8. What is the output of this command sequence:
   ```
   echo foo >file ; echo bar | sort file
   ```
   a. **foo** followed by **bar**
   b. **bar**
   c. **foo**
   d. an error message
   e. **bar** followed by **foo**

9. Which of the command lines below can generate a non-empty file?
   a. **head -5 file >file**
   b. **wc -wc file >file**
   c. **cat file file file >file**
   d. **sort -r file >file**
   e. **tail -3 file >file**

10. In an empty directory, how many words are in file **out** after this bash shell
    command line? **touch a ; ls >out**
    a. **3**
    b. **2**
    c. **4**
    d. **0 (empty file)**
    e. **1**

11. If file **twenty** contains twenty lines, and file **thirty** contains thirty lines, then
    how many lines are output by this command: **tail thirty | cat twenty**
    a. **20**
    b. **50**
    c. **30**
    d. no output on screen
    e. **21**

12. Which of these command sequences will make file **out** contain all of the content of
    file **in1** followed by all of the content of file **in2**?
    a. **cp in1 >out   in2 >out**
    b. **mv in1 in2 >out**
    c. **cat in1 in2 >out**
    d. **echo in1 in2 >out**
    e. **cp in1 in2 >out**

13. What appears on your screen after this bash shell command line?
        echo hi | wc -c
    a. **3**
    b. **0**
    c. **2**
    d. **1**
    e. no output on screen

14. What is the output of this sequence of three shell commands:
        echo hi >hi ; head hi >hi ; wc hi
    a. no output on screen
    b. **1 1 3 hi**
    c. **0 0 0 hi**
    d. **1 1 2 hi**
    e. **2 2 4 hi**

15. What is in the file **out** after this command sequence:
        echo hi >x ; echo ho >>x ; cp x y >out
    a. **hi** followed by **ho**
    b. no such file (nonexistent)
    c. nothing - empty file - no data
    d. **hi**
    e. **ho**

16. Which of the command lines below can generate a non-empty file?
    a. **sort -r /a/b >/a/b**
    b. **grep /a/b /a/b >/a/b**
    c. **tail -5 /a/b >/a/b**
    d. **cat /a/b >/a/b**
    e. **ls -i /a/b >/a/b**

17. If file **/a** contains thirty lines, and file **/b** contains fifty lines, then how many lines
    are in file **/c** after this sequence of shell commands:
        cat /a /b >/c ; sort /c >/c ; sort /c /a /b >/c
    a. **30**
    b. **160**
    c. **50**
    d. no lines (empty file)
    e. **80**

18. What is the output on your screen of the following command sequence if run in a
    directory containing 123 files with names that are all the numbers from **1** to **123**
    inclusive: **glob="*" ; echo "$glob"**
    a. **"$glob"**
    b. **$glob**
    c. the file names **1** through **123**, surrounded by quotes
    d. *****
    e. the file names **1** through **123**

19. What appears on your screen after this **bash** shell command line?
        echo hi >ls ; cat ls > wc
    a. **1 1 3**
    b. **1 1 2**
    c. no output on screen
    d. **ls**
    e. **hi**

20. How many arguments are passed to the command by the shell on this command line:
        <cow cow "-x "-y '-z' >cow cow
    a. **4**
    b. **5**
    c. **7**
    d. **3**
    e. **6**

21. What appears on your screen after this bash shell command line?
        echo hi >out | wc -c
    a. **0**
    b. **2**
    c. **3**
    d. no output on screen
    e. **1**

22. In an empty directory, how many words are in file **out** after this **bash** shell
command line? **touch 1 2 3 2 1 ; ls >out**
a. **5**
b. **0 (empty file)**
c. **3**
d. **4**
e. **6**

23. How many arguments are passed to the command by the shell on this command line:
<pig pig -x " " -z -r" " >pig pig pig
a. **8**
b. **9**
c. **6**
d. **5**
e. **7**

24. Which of the following is true, given this long directory listing from **ls**:
drwxr-x--x 256 ian user 512 May 30 12:35 dir
a. The number 256 is the size of this directory.
b. The number 512 is the size of this directory.
c. The number 256 is the octal permissions of this directory.
d. The number 256 is the inode number of this directory.
e. The number 512 is the count of links (names) this directory has.

25. Which of the following statements is true about this shell command line:
>/a/b/c cat /a/b/d
a. The command **/a/b/c** sees two arguments.
b. The command **/a/b/c** sees only one argument
c. The command **cat** sees two arguments.
d. The command is always invalid.
e. The command **cat** sees only one argument.

26. Which of these command sequences will make file **foo** contain all of the content of
file **a** followed by all of the content of file **b**?
a. **cp a >foo ; cp b >>foo**
b. **mv a b >foo**
c. **cp a b >foo**
d. **cat a >foo ; cat b >>foo**
e. **echo a b >foo**

27. If file **x** contains ten lines, and file **y** contains twenty lines, then how many lines are
in file **cat** after this sequence of **bash** shell commands:
sort x y >z ; tail -5 y >y ; sort x y z >cat
a. **60**
b. no lines (empty file)
c. **45**
d. **40**
e. **50**

28. What appears on your screen after this bash shell command line?
mkdir foo ; rmdir foo | wc -c
a. **0**
b. **3**
c. no output on screen
d. **1**
e. **4**

29. Which of the following VI/VIM key sequences will move the entire line on which the
cursor resides to after the line that follows it (i.e. it would move line 5 to be line 6
and line 6 would become line 5)?
a. **ddp**
b. **DDP**
c. **:dp**
d. **DDp**
e. **ddP**

30. Select the correct **bash** shell order of command line processing:
a. quotes, redirection, variables, globs
b. quotes, variables, redirection, globs
c. quotes, globs, variables, redirection
d. redirection, quotes, globs, variables
e. quotes, variables, globs, redirection

31. How many lines are in the file **out** after this command sequence:
echo hi >x ; echo ho >>x ; cat x x x >out
a. **3**
b. **6**
c. **1**
d. nothing - empty file - no data
e. **2**

32. What is in the file named **file** after this command sequence:
echo a >c ; echo b >>c ; mv c d >file
a. nothing - **file** is empty - no data
b. **a** followed by **b**
c. **b**
d. no such file (nonexistent file)
e. **a**

33. What is in file **out** after running this **bash** shell command line?
echo 2 3 >out 3 0
a. nothing - empty file
b. **2 3 0**
c. **2 3 >out 3 0**
d. **2 3 3 0**
e. **2 3**

34. What is true about this bash shell command line?
      ```
      date >ls ; ls -ls ls >wc
      ```
    a. The shell finds and executes three different commands.
    b. The **ls** command is executed more than once.
    c. The **wc** command counts the output of the **ls** command.
    d. The **ls** command receives the output of **date** on standard input.
    e. The file **wc** has one line in it.

35. If your PATH variable contains **/bin:/usr/bin**, what is the output of this **bash** shell command line?   **echo '$PATH'**
    a. **/bin**
    b. **'$PATH'**
    c. **/bin:/usr/bin**
    d. **'/bin'**
    e. **$PATH**

36. How many arguments are passed to the command by the shell on this command line:
      ```
      <bat bat -b "-a -r" >bat bat bat
      ```
    a. **5**
    b. **6**
    c. **7**
    d. **4**
    e. **3**

37. Which of these command sequences will make **file3** contain all of the content of **file1** followed by all of the content of **file2**?
    a. **mv file1 file2 >file3**
    b. **echo file1 file2 >file3**
    c. **cp file1 >file3 file2 >file3**
    d. **cp file1 file2 >file3**
    e. **cat file1 file2 >file3**

38. How many arguments does the shell pass to this **echo** command:
      ```
      echo " 1 2 "three ' 4 ' five"6"
      ```
    a. Five arguments.
    b. One argument.
    c. Nine arguments.
    d. Four arguments.
    e. Three arguments.

39. What text is output by this **bash** shell command sequence:
      ```
      echo dog >out ; echo cat | sort out
      ```
    a. **dog**
    b. **cat** followed by **dog**
    c. **out**
    d. **dog** followed by **cat**
    e. **cat**

40. What is in file **out** after running this bash shell command line?
      ```
      echo a >out b c
      ```
    a. **a**
    b. **a b c**
    c. **echo a**
    d. **b c**
    e. nothing - empty file

41. How many arguments does the shell pass to this **echo** command:
      ```
      echo 'And it's not hard, it's just logical.'
      ```
    a. Six arguments.
    b. Five arguments.
    c. Four arguments.
    d. Three arguments.
    e. Seven arguments.

42. If file **ten** contains ten lines, and file **twenty** contains twenty lines, then how many lines are output by this command: **cat twenty | sort ten**
    a. **10**
    b. **20**
    c. no output on screen
    d. **30**
    e. **60**

43. Which of the following is true, given this long directory listing from **ls**:
      ```
      drwxr-x--x 456 ian user 123 May 30 12:35 dir
      ```
    a. The number 123 is the size in bytes of this directory.
    b. The number 456 is the octal permissions of this directory.
    c. The number 123 is the count of links (names) this directory has.
    d. The number 456 is the inode number of this directory.
    e. The number 456 is the size of this directory.

44. In an empty directory, what is the shell output of these three commands:
      ```
      touch .1 .2 .3 11 12 ; b='.1* .2*' ; echo '$b'
      ```
    a. **$b**
    b. **11 .1 12 .2**
    c. **'.1* .2*'**
    d. **.1* .2***
    e. **.1 .2**

45. What appears on your screen after this sequence of commands:
      ```
      echo one >x ; cp x y ; echo two >>y ; sort x >y ; cat y
      ```
    a. **one**
    b. no output on screen
    c. **one** followed by **two**
    d. **two** followed by **one**
    e. **two**

46. Which one of the following commands will leave **file1** non-empty?
    a. **sort file1 > file1**
    b. **tail file1 > file1**
    c. **wc file1 > file1**
    d. **cat file1 > file1**
    e. **head file1 > file1**

47. What appears on your screen after this bash shell command line?
    echo hi >a ; cat a | wc -c
    a. **2**
    b. **4**
    c. **1**
    d. no output on screen
    e. **3**

48. If I am in my home directory named **/home/ian** and **mt** is an empty sub-directory, what is true after this command line:
    who >../ian/cat ; cp ./mt/../cat ./mt/../dog
    a. the command fails because the path **./mt/../cat** does not exist
    b. the directory **mt** now contains two files
    c. the directory **mt** is still empty
    d. there is a second copy of the file named **who** in the file **dog**
    e. the directory **mt** now has a file named **dog** in it

49. How many command arguments does the shell pass to this **echo** command:
    echo 'It's a bird! No! It's a plane!'
    a. Five arguments.
    b. Three arguments.
    c. One argument.
    d. Two arguments.
    e. Four arguments.

50. If your terminal type is **xterm,** what is the output of this **bash** shell command line? **echo '$TERM'**
    a. **'$TERM'**
    b. no output on screen
    c. **xterm**
    d. **'xterm'**
    e. **$TERM**

51. In an empty directory, what is the length of the longest file name created by the following shell two-command sequence:
    var='a ab abc abcd abcde' ; touch "$var"
    a. 15 characters
    b. 5 characters
    c. 19 characters
    d. 4 characters
    e. 3 characters

52. If file **/a** contains thirty lines, and file **/b** contains fifty lines, then how many lines are output by this command: **cat /a | sort /b**
    a. **50**
    b. no lines (empty file)
    c. **30**
    d. **20**
    e. **80**

53. In an empty directory, what appears on your screen after this bash command line?
    touch a ; ls | wc -l
    a. no output on screen
    b. **3**
    c. **0**
    d. **2**
    e. **1**

54. How many command arguments does the shell pass to this **echo** command:
    echo 'It's a bird! It's a plane!'
    a. Four arguments.
    b. Three arguments.
    c. Five arguments.
    d. Two arguments.
    e. One argument.

55. What appears on your screen after this bash shell command line?
    echo hi >a ; ls a > wc
    a. **1 1 2**
    b. **2**
    c. **1 1 3**
    d. **3**
    e. no output on screen

56. Which of the command lines below can generate a non-empty file?
    a. **ls -ls file >file**
    b. **sort -r file file >file**
    c. **head -1 file >file**
    d. **grep pattern file >file**
    e. **touch file >file**

57. Which of the following is true, given this long directory listing from **ls**:
    drwxr-x--x 123 ian user 456 May 30 12:35 dir
    a. The number 456 is the size of this directory.
    b. The number 123 is the inode number of this directory.
    c. The number 456 is the count of links (names) this directory has.
    d. The number 123 is the size of this directory.
    e. The number 123 is the octal permissions of this directory.

58. What appears on your screen after this bash shell command line?
    ```
    echo hi >a ; ls a | wc -c
    ```
    a. **4**
    b. no output on screen
    c. **1**
    d. **3**
    e. **2**

59. How many arguments does the shell pass to this **echo** command:
    ```
    echo ' one two ' three ' four ' 5'6'
    ```
    a. Five arguments.
    b. Four arguments.
    c. Nine arguments.
    d. Six arguments.
    e. One argument.

60. What is the output of this sequence of three shell commands:
    ```
    echo hi >wc ; ls wc >wc ; wc wc
    ```
    a. **2 2 4 wc**
    b. **1 1 2 wc**
    c. **1 1 3 wc**
    d. **0 0 0 wc**
    e. no output on screen

61. What appears on your screen after this **bash** shell command line?
    ```
    echo xx >z ; ls z > wc
    ```
    a. **3**
    b. **1   1   2**
    c. **2**
    d. **1   1   3**
    e. no output on screen

62. Given an existing file of yours named **wc**, what is the output of this sequence of
    three shell commands: **echo hi >wc ; sort wc >wc ; cat wc**
    a. **2 2 4 wc**
    b. no output on screen
    c. **0 0 0 wc**
    d. **1 1 2 wc**
    e. **1 1 3 wc**

63. What is the output of this bash shell command line in an empty directory?
    ```
    echo '$SHELL'
    ```
    a. no output on screen
    b. **/bin/bash**
    c. **$SHELL**
    d. **'$SHELL'**
    e. **'/bin/bash'**

64. Given an existing file of yours named **/a/x**, what is the output of this sequence of
    three shell commands:
    ```
    echo hi >/a/x ; sort /a/x >/a/x ; wc /a/x
    ```
    a. **1 1 2 /a/x**
    b. **2 2 4 /a/x**
    c. **0 0 0 /a/x**
    d. no output on screen
    e. **1 1 3 /a/x**

65. In an empty directory, what is the shell output of these three commands:
    ```
    touch xx .x xy .y xz ; a='x* y*' ; echo "$a"
    ```
    a. ***x *y**
    b. **xx xy xz y***
    c. **x* y***
    d. **$a**
    e. **xx xy**

66. What text is output by this **bash** shell command sequence:
    ```
    echo cow >foo ; echo dog | head -1 foo
    ```
    a. **cow**
    b. **cow** followed by **dog**
    c. **dog**
    d. **foo**
    e. **dog** followed by **cow**

67. What is the output on your screen of the following sequence of commands:
    ```
    echo hi >wc ; wc wc >hi ; cat hi
    ```
    a. **1 1 2 wc**
    b. **0 0 0 wc**
    c. **hi**
    d. no output on screen
    e. **1 1 3 wc**

68. In an empty directory, what is the length of the longest file name created by the
    following sequence: **var='a ab abc abcd abcde' ; touch '$var'**
    a. 19 characters
    b. 4 characters
    c. 5 characters
    d. 15 characters
    e. 3 characters

69. In an empty directory, how many arguments are passed to the **cat** command in this
    bash command line?   **date >a1 ; touch a2 ba ca ; cat a***
    a. **3**
    b. **2**
    c. **1**
    d. **4**
    e. none

70. In an empty directory, what appears on your screen after this bash command line?
    ```
    touch a ; ls >wc -l
    ```
    a. **2**
    b. **1**
    c. no output on screen
    d. **3**
    e. **0**

71. Which of the following statements is true about this shell command line:
    ```
    >bar zoom bar haven
    ```
    a. The command **zoom** sees two arguments.
    b. The command **bar** sees three arguments.
    c. Error: The command name is missing from the command line.
    d. The command **zoom** sees three arguments.
    e. The command **bar** sees only two arguments

72. What appears on your screen after this bash shell command line?
    ```
    echo hi >out ; wc -c out
    ```
    a. **2 out**
    b. **5 out**
    c. **4 out**
    d. no output on screen
    e. **3 out**

73. How many arguments does the shell pass to this **echo** command:
    ```
    echo " one '2 three' 4 "five 6 ' 7 "8 ' >out
    ```
    a. Three arguments.
    b. Six arguments.
    c. Four arguments.
    d. Five arguments.
    e. Two arguments.

74. Which of the command lines below can generate a non-empty file?
    a. **sort -r /out >/out**
    b. **ls /out >/out**
    c. **grep -v /out /out >/out**
    d. **tail -5 /out >/out**
    e. **head </out >/out**

75. What is the output of this command sequence:
    ```
    echo bat >one ; echo sky | head -2 one
    ```
    a. **bat** followed by **sky**
    b. **bat**
    c. an error message
    d. **sky** followed by **bat**
    e. **sky**

76. What is the output on your screen of the following sequence of commands:
    ```
    echo wc >wc ; wc wc >wc ; cat wc
    ```
    a. **0 0 0 wc**
    b. no output on screen
    c. **wc**
    d. **1 1 3 wc**
    e. **1 1 2 wc**

77. What is the output on your screen of this command sequence:
    ```
    echo dog >one ; echo cow | head -2 one
    ```
    a. an error message
    b. **dog**
    c. **cow**
    d. **dog** followed by **cow**
    e. **cow** followed by **dog**

78. What appears on your screen after this bash shell command line?
    ```
    echo hi >a ; echo a | wc -c
    ```
    a. **4**
    b. **1**
    c. **2**
    d. **3**
    e. no output on screen

79. What is in the file **bar** after this command sequence:
    ```
    echo hi >x ; echo ho >x ; mv x y >bar
    ```
    a. nothing - empty file - no data
    b. **hi** followed by **ho**
    c. no such file (nonexistent)
    d. **hi**
    e. **ho**

80. How many arguments does the shell pass to this **echo** command:
    ```
    echo "cow "y " bat 'man x' " pig'a "hop' a b
    ```
    a. Eleven arguments.
    b. Five arguments.
    c. Six arguments.
    d. Four arguments.
    e. Seven arguments.

81. How many arguments are passed to the command by the shell on this command line:
    ```
    <bar bar -b "-a" '-r' >bar bar bar
    ```
    a. **7**
    b. **4**
    c. **6**
    d. **3**
    e. **5**

82. If file **a** contains twenty lines, and file **b** contains thirty lines, then how many lines are in file **out** after this sequence of **bash** shell commands:
    ```
    cat a b >c ; head c >c ; sort a b c >out
    ```
    a. **60**
    b. no lines (empty file)
    c. **50**
    d. **100**
    e. **30**

83. How many lines are in the file **bar** after this command sequence:
    ```
    echo hi >x ; echo ho >>x ; cat x x >bar
    ```
    a. **2**
    b. **6**
    c. **1**
    d. **4**
    e. nothing - empty file - no data

84. In an empty directory, how many arguments are passed to the **rm** command in this **bash** command line? **date >a1 ; touch a2 ba ca >all ; rm a***
    a. **3**
    b. **4**
    c. **2**
    d. **1**
    e. none

85. How many lines are in file **out** after this bash shell command line?
    ```
    echo hi >dog >out >cat
    ```
    a. **1**
    b. **3**
    c. **0 (empty file)**
    d. no such file (file does not exist)
    e. **2**

86. If file **/a** contains 20 lines, and file **/b** contains 30 lines, then how many lines are in file **/c** after this sequence of shell commands:
    ```
    sort /a /b >/c ; cat /a >>/b ; sort /c /b /a >/c
    ```
    a. **50**
    b. no lines (empty file)
    c. **80**
    d. **120**
    e. **70**

87. What appears on your screen after this bash shell command line?
    ```
    echo hi >a ; cp a b | wc -c
    ```
    a. **0**
    b. no output on screen
    c. **3**
    d. **2**
    e. **1**

88. In an empty directory, what is the length of the longest file name created by the following two-command sequence:
    ```
    var='a ab abc abcd abcde' ; touch $var
    ```
    a. 3 characters
    b. 19 characters
    c. 5 characters
    d. 15 characters
    e. 4 characters

89. In an empty directory, how many words are in file **cow** after this **bash** shell command line? **touch dog dog cat ; ls >cow**
    a. **2**
    b. **4**
    c. **0 (empty file)**
    d. **1**
    e. **3**

90. What is the output of this sequence of three shell commands:
    ```
    echo x >abc ; ls >abc abc ; wc abc
    ```
    a. no output on screen
    b. **1 1 4 abc**
    c. **1 1 3 abc**
    d. **0 0 0 abc**
    e. **1 1 2 abc**

91. If I am in my home directory named **/home/alleni** and **empty** is an empty sub-directory, what is true after this command line:
    ```
    date >./cat ; mv empty/../cat ../alleni/dog
    ```
    a. the directory **empty** now contains only a file named **dog**
    b. the command fails because the path **../alleni/dog** does not exist
    c. there is a second copy of the file **cat** in the file named **dog**
    d. the directory **empty/..** now has a file named **dog** in it
    e. the command fails because the path **empty/../cat** does not exist

92. How many arguments and options are there to the command:
    ```
    wc -l <infile
    ```
    a. A file name starting with a dash and an **<infile** switch option argument.
    b. Two arguments, one of which is a single option name and the other is a pathname.
    c. Two arguments, neither of which is an option.
    d. Three arguments, one of which contains an option and one is a pathname.
    e. One command line argument containing one option name.

Answer Key - NET 2003 – Ian Allen – Winter 2006 - NET 2003 Practice Test

```
Count of a:   25   27%
Count of b:   17   18%
Count of c:   20   22%
Count of d:   10   11%
Count of e:   20   22%

With 5 choices: 92

Macro .cmd split no indent: 1
Macro .cmd split with indent: 66
```

```
  1. a              49. a
  2. e              50. e
  3. b              51. c
  4. c              52. a
    5. d              53. e
    6. b              54. a
    7. b              55. e
    8. c              56. a
  9. b              57. a
 10. b              58. e
 11. a              59. b
 12. c              60. c
   13. a              61. e
   14. c              62. b
   15. c              63. c
   16. e              64. c
 17. e              65. c
 18. d              66. a
 19. c              67. e
 20. d              68. b
   21. a              69. b
   22. d              70. c
   23. c              71. a
   24. b              72. e
 25. e              73. a
 26. d              74. b
 27. d              75. b
 28. a              76. a
   29. a              77. b
   30. a              78. c
   31. b              79. a
   32. a              80. b
 33. d              81. e
 34. e              82. c
 35. e              83. d
 36. d              84. a
   37. e              85. c
   38. e              86. e
   39. a              87. a
   40. b              88. c
 41. c              89. e
 42. a              90. b
 43. a              91. d
 44. a              92. e
   45. a
   46. c
   47. e
   48. c
```