Math Power

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☎: 301-251-7014
site: http://www.MathEnglish.com

By Dr. Li
E-mail : DL@MathEnglish.com

Name: (First)_____(Last)_____

School: _____ Grade:_____

Quantitative Comparison

The following problems require quantitative comparison. Only four outcomes are possible. Select
A if quantity (A) > quantity (B)
B if quantity (B) > quantity (A)
C if both are equal
D none of the above

1. (A) # of degrees for making a full turn.

   (B) # of days for passing a year

2. (A) $91\times92\times93\times94\times95$

   (B) $92\times93\times94\times95\times96$

3. (A) $999(99 + 99)$

   (B) $999\times99 + 999\times99$

4. (A) 90.25%

   (B) $90\frac{1}{4}\%$

5. (A) 0.5^5

   (B) 0.5×5

6. Compare the number of minutes in
   (A) 3.2 hr

   (B) 3 hr and 20 min

7. (A) the number of minutes in $\frac{2}{3}$ hour

   (B) the number of seconds in $\frac{2}{3}$ min

8. (A) the number of minutes in a quarter hour

   (B) the number of pennies in a quarter

9. (A) $\dfrac{1}{\frac{1}{3}+\frac{3}{5}}$

   (B) $\dfrac{1}{\frac{1}{2}+\frac{2}{3}}$

10. 
    A dollar sign is formed by drawing two parallel vertical lines through the letter S, as shown. These lines cut the letter S into 7 pieces.

    (A) the minimum number of parallel vertical lines that are needed to cut the letter S into 31 pieces

    (B) 9

11. (A) $100 + 0 + 0 + 0$

    (B) $100 + 0 + 0$

12. Kayla and Lara both have $100.

    (A) The amount in dollars left by Kayla after spending $\frac{1}{3}$ on rides and $\frac{1}{4}$ of the rest on food

    (B) The amount in dollars left by Lara after spending $\frac{1}{4}$ on rides and $\frac{1}{3}$ of the rest on food

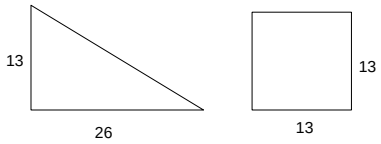
13. (A) $\frac{1}{100}$

    (B) $\frac{1}{101}$

14. Compare the number of '0' at the end of
    (A) 20^5

    (B) $2\times4\times8\times5\times25\times125$

15. Compare the areas of the two shapes.



    (A) the area of the triangle

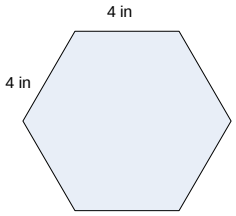
    (B) the area of the square

16. The result of multiplying four different positive integers is 30.

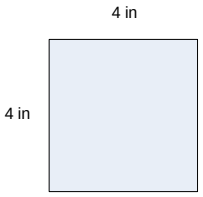
    (A) The largest number of these four numbers

    (B) The number of vertices of a pentagon

17. (A) The area in square inches of the regular hexagon as below.



    (B) The area in square inches of the following square.



18. (A) 1000^0

    (B) 1

19. (A) $(1 - \frac{1}{2}) + (\frac{1}{2} - \frac{2}{3}) + (\frac{2}{3} - \frac{3}{4}) + (\frac{3}{4} - \frac{4}{5})$

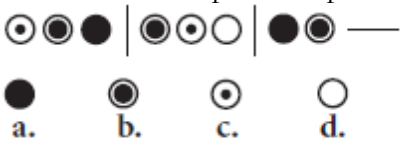
    (B) $1\times\frac{1}{2}\times\frac{2}{3}\times\frac{3}{4}\times\frac{4}{5}$

20. (A) .75%

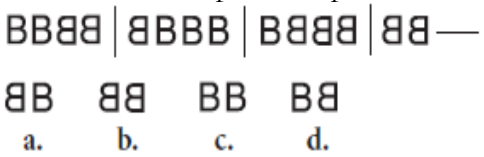
(B) 0.0075

Picture Analogies

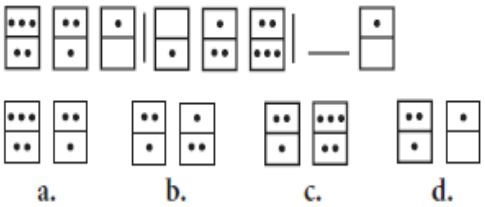
21. Observe and complete the pattern:



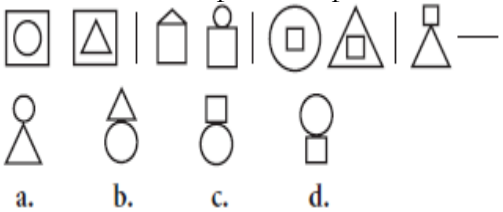
22. Observe and complete the pattern:



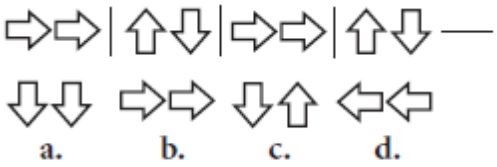
23. Observe and complete the pattern:



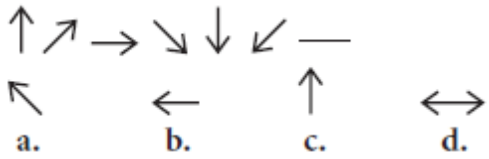
24. Observe and complete the pattern:



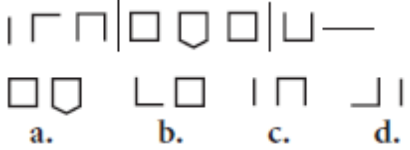
25. Observe and complete the pattern:



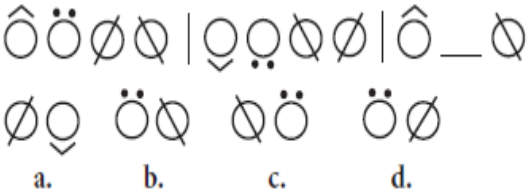
26. Observe and complete the pattern:



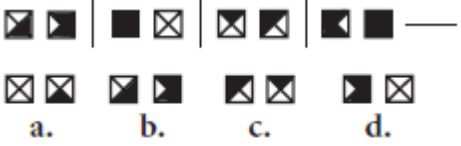
27. Observe and complete the pattern:



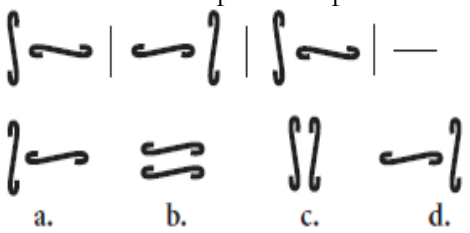
28. Observe and complete the pattern:



29. Observe and complete the pattern:



30. Observe and complete the pattern:



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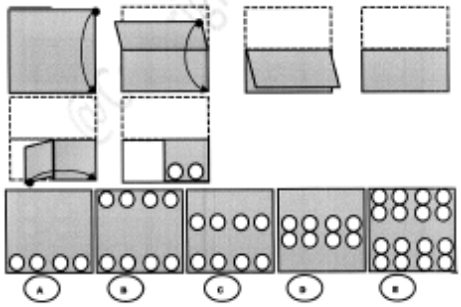
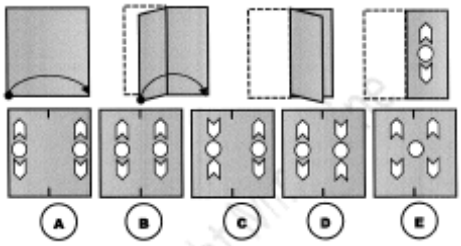


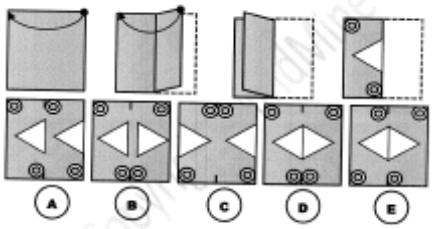
Paper Folding

In the Paper Folding subtest, each question shows a square piece of paper being folded and then the folded paper is hold-punched. Select the answer from the bottom row that shows how the folded paper with holes will look when it is unfolded.

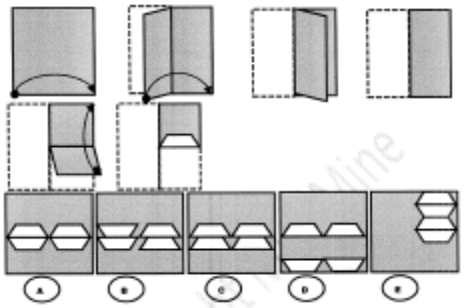
31.



32.



34.



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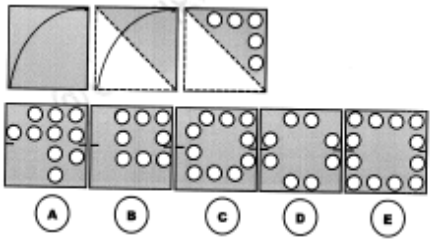
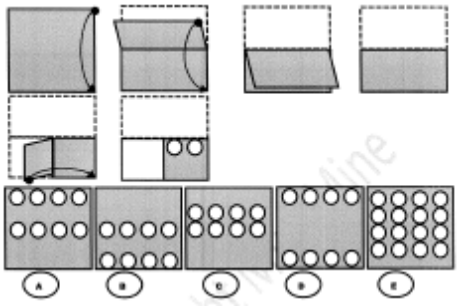
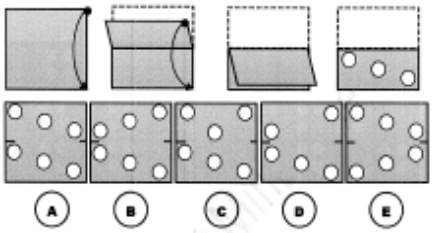
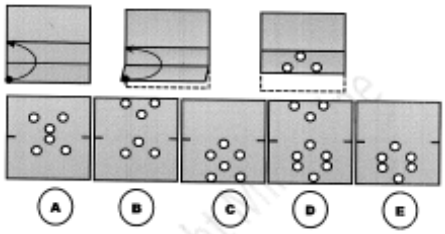
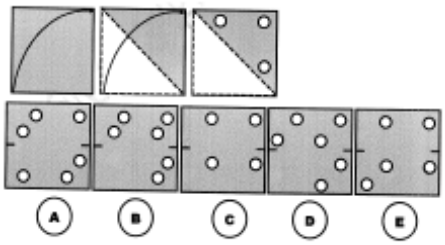


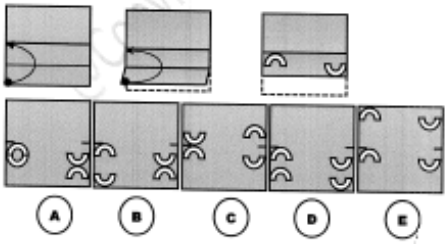
36.

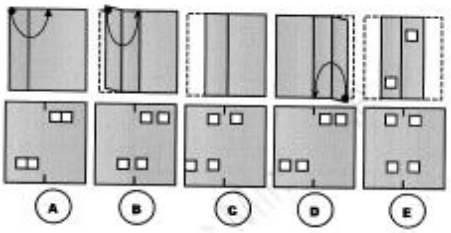


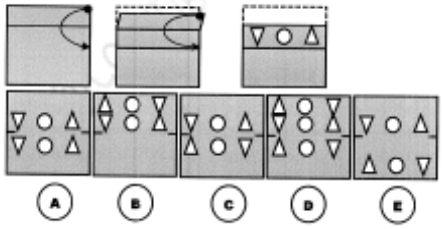
37. 

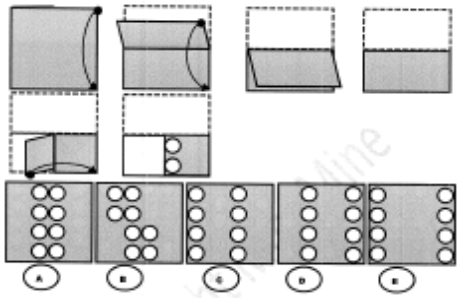
38. 

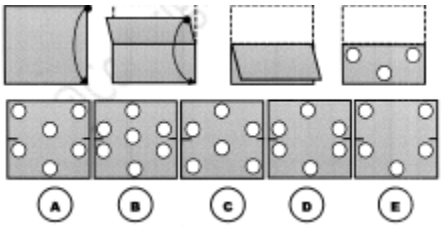
39. 

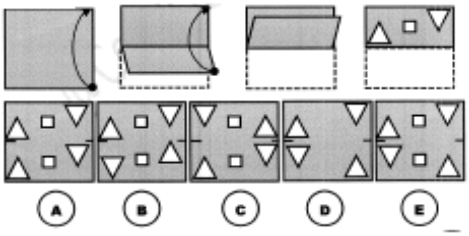
40. 

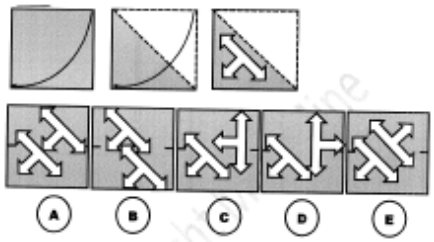
41. 

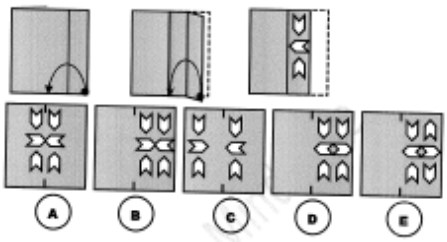
42. 

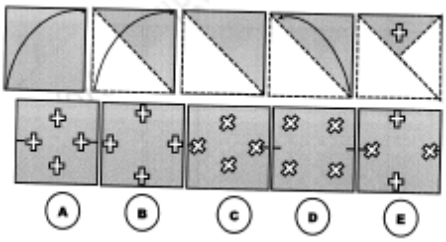
43. 

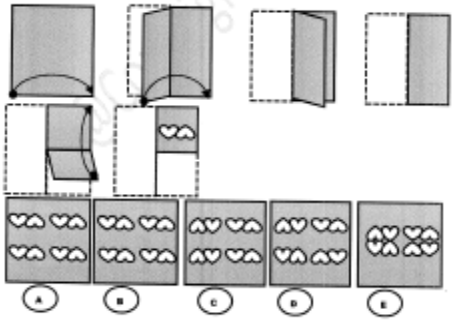
44. 

45. 

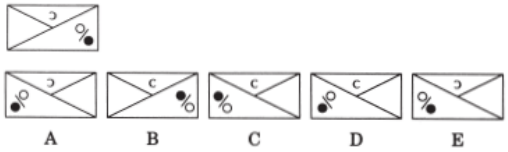
46. 

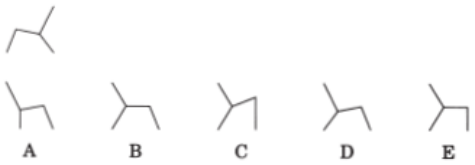
47. 

48. 

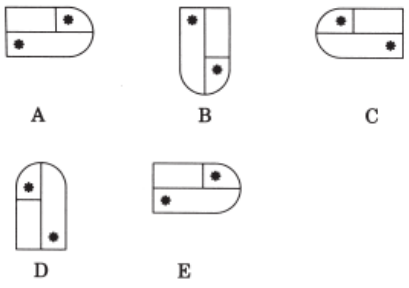
49. 

Non Verbal Reasoning

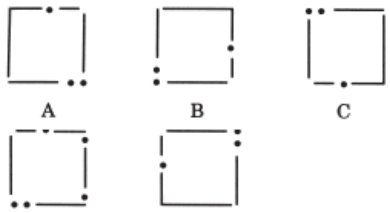
50. 

51. 

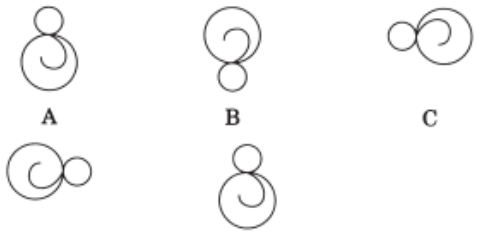
Which shape is different from others?

52. 

53.

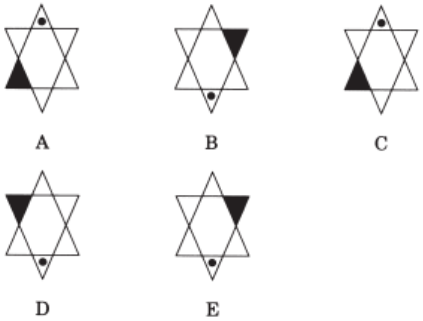


54.



55.

56.



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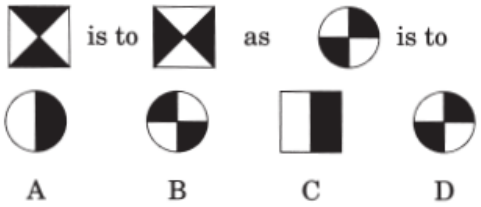
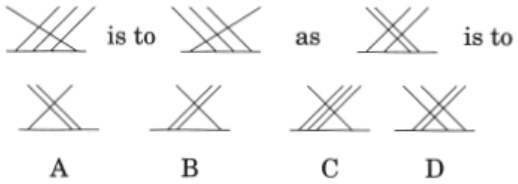
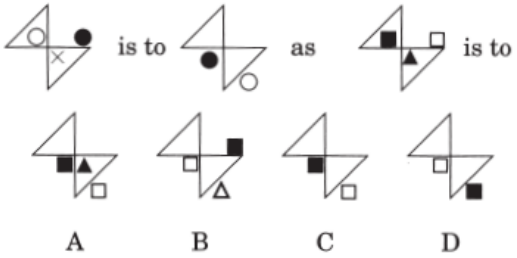


58.



59.



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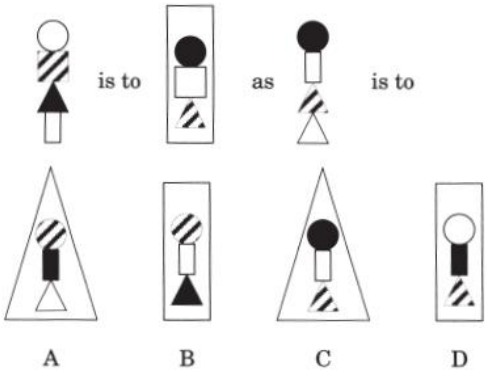
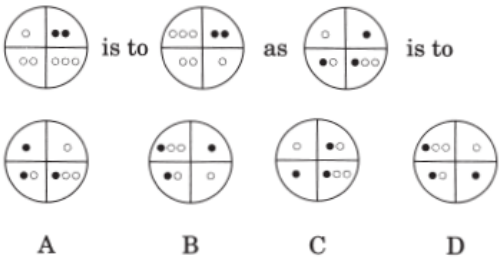
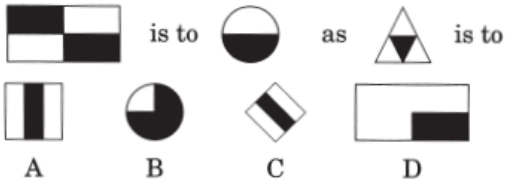
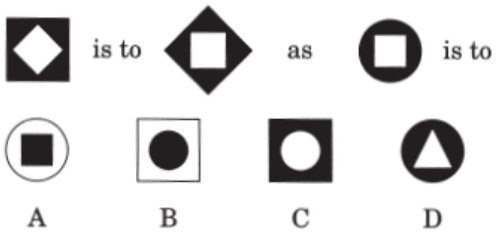
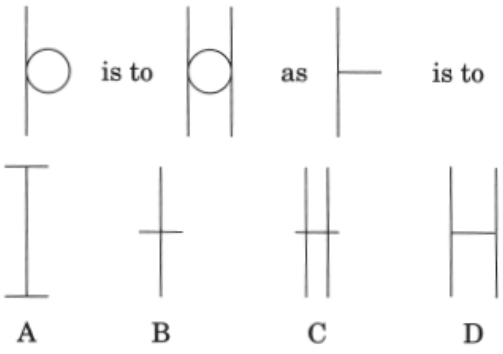


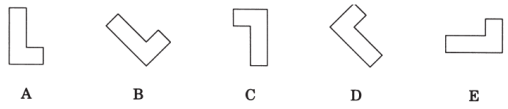
Analogies

61. 

62. 

63. 

64. 

65. 

What comes next in the sequence?

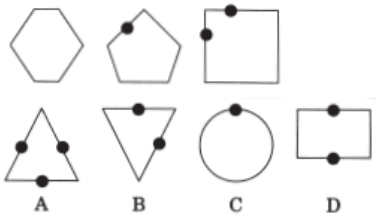
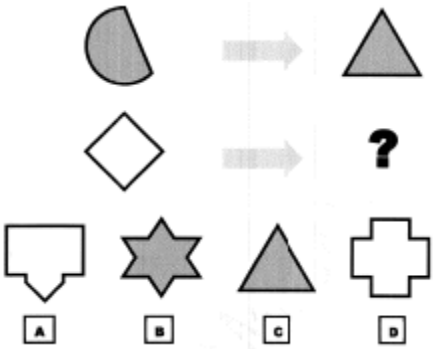
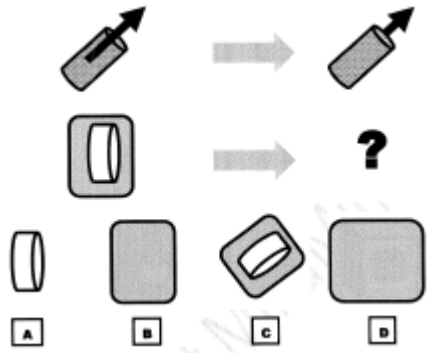
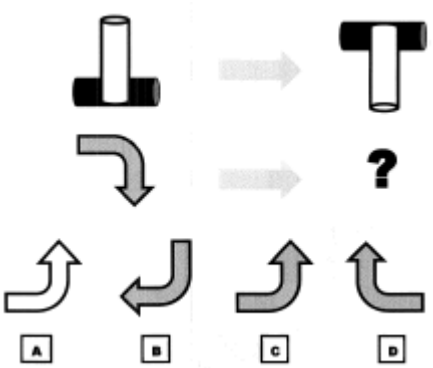
66. 

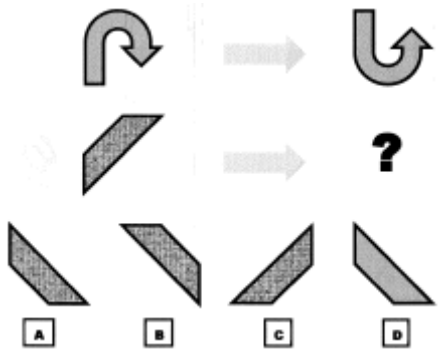
Figure Analogies

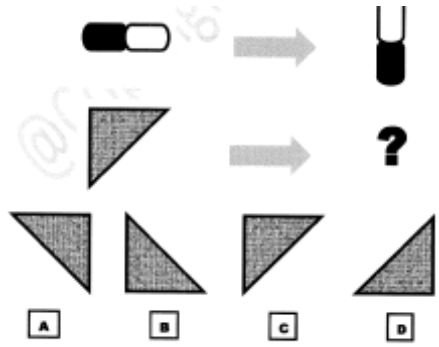
In the Figure Analogies subtest, students are given a set of figures. They will need to find the missing figure from the given choices.

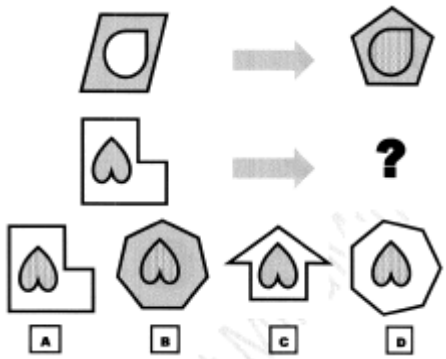
67. 

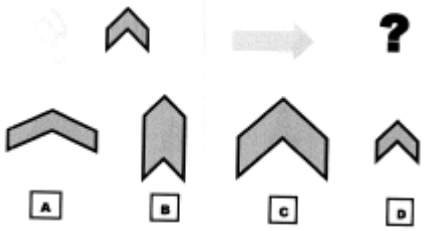
68. 

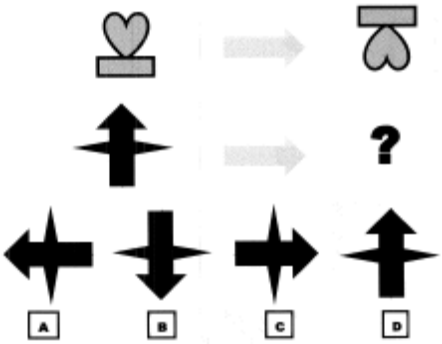
69. 

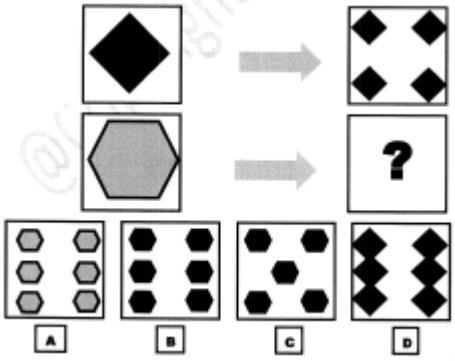
70. 

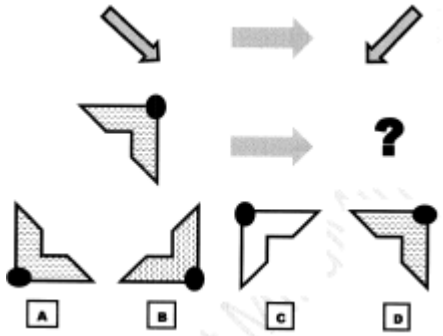
71. 

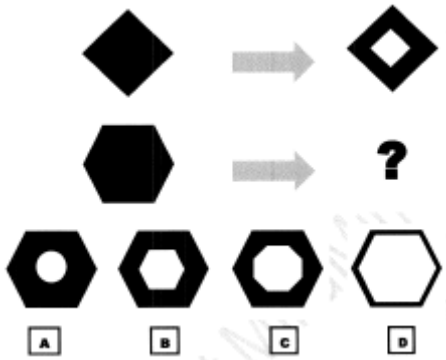
72. 

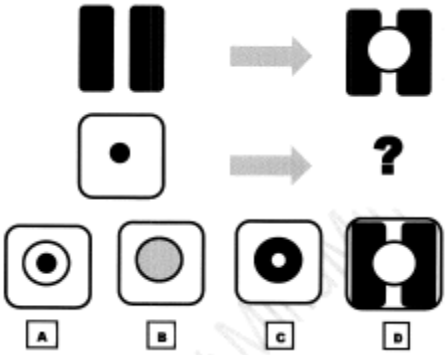
73. 

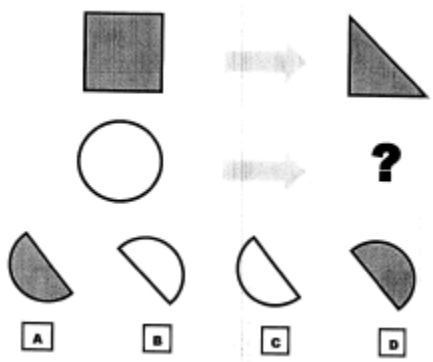
74. 

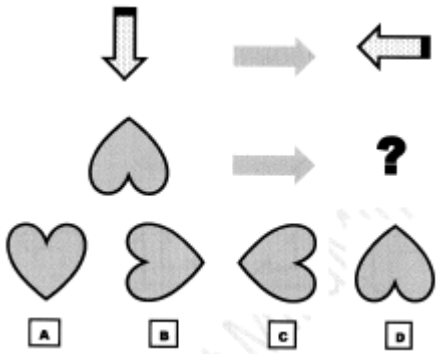
75. 

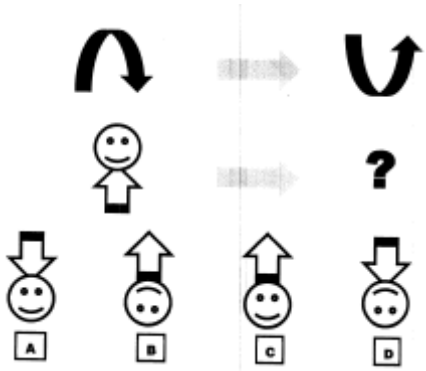
76. 

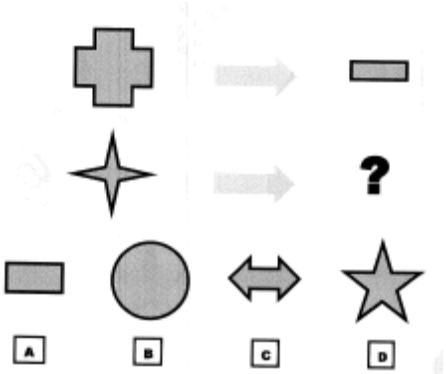
77. 

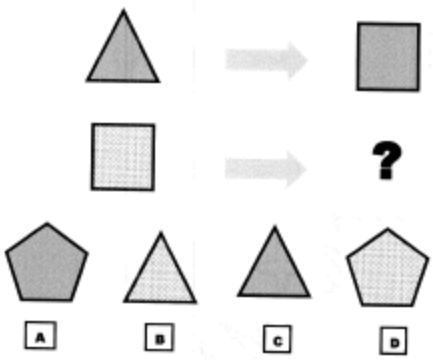
78. 

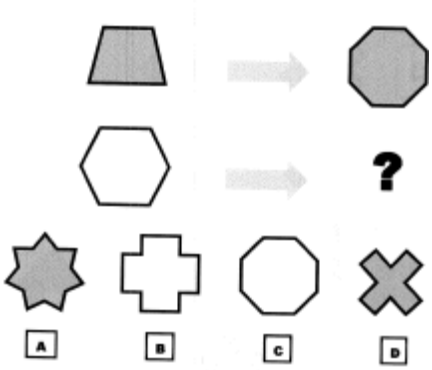
79. 

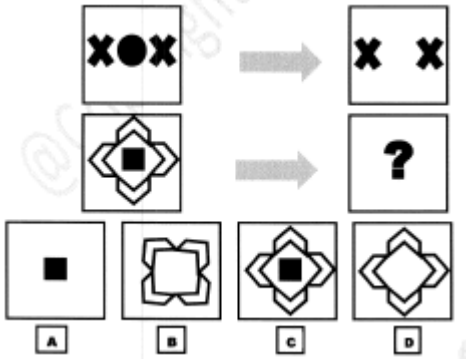
80. 

81. 

82. 

83. 

84. 

85. 

Answer Key

1. B
2. B
3. C
4. C
   $90.25 = 90\frac{1}{4}$
5. B
6. B
7. C
8. B
9. A
   $\frac{1}{2} + \frac{2}{3} = \frac{7}{6} > \frac{1}{3} + \frac{3}{5} = \frac{14}{15}$
   $\frac{1}{\frac{1}{2}+\frac{2}{3}} < \frac{1}{\frac{1}{3}+\frac{3}{5}}$
10. A
11. C
12. C
13. A
14. B
    (B) $2\times4\times8\times5\times25\times125 = 2\times5\times4\times25\times8\times125 = 10\times100\times1000 = 1{,}000{,}000$
15. C
16. C
    $30 = 1\times2\times3\times\boxed{5}$
17. A
18. C
19. C
20. C
21. C
    In this series, the shaded part inside the circle gets larger and then smaller.
22. C
    Study the pattern carefully. In the first segment, two letters face right and the next two face left. The first letter in the second segment repeats the last letter of the previous segment. The same is true for the third segment. But the forth segment changes again; it is the opposite of the first segment, so the last two letters must face right.
23. A
    Look carefully at the number of dots in each domino. The first segment goes from five to three to one. The second segment goes from one to three to five. The third segment repeats the first segment.
24. C
    All four segments use the same figures: two squares, one circle, and one triangle. In the first segment, the squares are on the outside of the circle and triangle. In the second segment, the squares are below the other two. In the third segment, the squares on are the inside. In the fourth segment, the squares are above the triangle and circle.
25. B
    Look at each segment. In the first segment, the arrows are both pointing to the right. In the second segment, the first arrow is up and the second is down. The third segment repeats the first segment. In the fourth segment, the arrows are up and then down. Because this is an alternating series, the two arrows pointing right will be repeated, so option b is the only possible choice.
26. B
    Each arrow in this continuing series moves a few degrees in a clockwise direction. Think of these arrows as the big hand on a clock. The first arrow is at noon. The last arrow before the blank would be 12:40. Choice b, the correct answer, is at 12:45.
27. D
    This sequence concerns the number of sides on each figure. In the first segment, the three figures have one side, and then two sides, and then three sides. In the second segment, the number of sides increases and then decreases. In the third segment, the number of sides continues to decrease.
28. D
    This is an alternating series. The first and third segments are repeated. The second segment is simply upside down.
29. A
    In this series, the figures increase the amount of shading by one-fourth and, once a square is completely shaded, starts over with an unshaded square. In the second segment, you will notice that the figure goes from completely shaded to completely unshaded. This is why choice a is the correct choice.
30. D
    Look for opposites in this series of figures. The first and second segments are opposites of each other. The same is true for the third and fourth segments.
31. B
32. D

33. B
34. A
35. C
36. C
37. B
38. E
39. A
40. B
41. D
42. B
43. A
44. D
45. E
46. E
47. D
48. A
49. D
50. D
51. D
52. C
53. D
54. B
55. E
56. D
57. B
58. D
59. D
60. A
61. B
62. D
63. C
64. D
65. D
66. A
67. D
68. B
69. C
70. A
71. B
72. D
73. A
74. B
75. A
76. B
77. B
78. A
79. C
80. B
81. D
82. B
83. D
84. B
85. D