

Question 1 (Arithmetic)

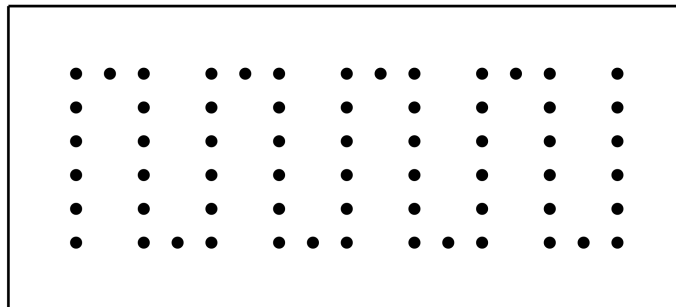
Calculate $(4 \times 14) + (4 \times 6) + (3 \times 12) + (1 \times 12)$.

- A. 122
- B. 124
- C. 128
- D. 130
- E. None of the above

Ans: C

Question 2 (Counting)

How many dots are there in the figure?



- A. 64
- B. 62
- C. 58
- D. 56
- E. None of the above

Ans: B

Question 3 (Pattern)

Observe the pattern below. How many stars are there before the 21st shape?

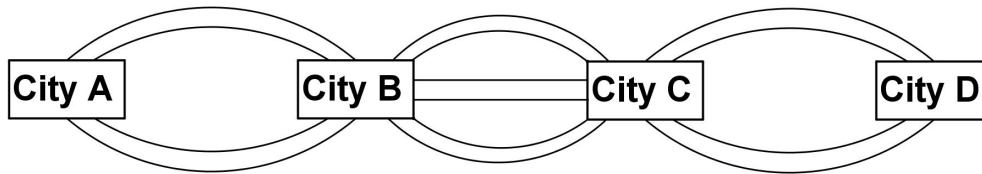
☆ ☆ ♥ ☆ ● ☆ ☆ ☆ ♥ ☆ ● ☆ ☆ ☆ ♥ ☆ ● ☆

- A. 20
- B. 17
- C. 15
- D. 14
- E. None of the above

Ans: D

Question 4 (Counting Routes)

The diagram below shows the map of four neighbouring cities. There are 2 roads connecting City A and City B, 3 roads connecting City B and City C, and 2 roads connecting City C and City D. Tom wants to travel from City A to City D. How many different routes can he take to reach City D?

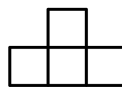


- A. 12
- B. 10
- C. 7
- D. 5
- E. None of the above

Ans: A

Question 5 (Spatial Visualization)

Terence has the following piece made up of 4 square tiles



can

Which figures

of

the below

Terence make using the pieces he has?

- A.
- B.
- C.

D.

E.

Ans: E

Question 6 (Diagram with patterns)

The pictures below are made up of squares and 6-sided shapes, each of which is added one shape at a time. Figure 1 has 17 lines, Figure 2 has 20 lines and Figure 3 has 25 lines. How many lines will there in Figure 9?

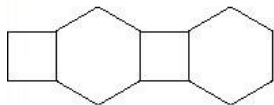


Figure 1

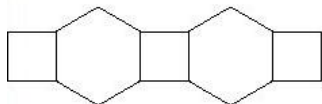


Figure 2

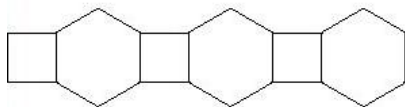


Figure 3

- A. 80
- B. 47
- C. 45
- D. 43
- E. None of the above

Ans: E

Question 7 (Intervals)

Josh lives on the 8th floor. He needs to climb 24 steps to move from the 2nd floor to the 5th floor. How many steps does he need to climb to move from the 1st floor to the 8th floor?

- A. 96
- B. 64
- C. 56
- D. 48
- E. None of the above

Ans: C

Question 8 (Multiples)

Vicky shades the multiples of a number in the table below. In the end, she shades exactly 11 numbers. What is Vicky's number?

1	11	21	31	41	51	61	71	81	91
2	12	22	32	42	52	62	72	82	92
3	13	23	33	43	53	63	73	83	93
4	14	24	34	44	54	64	74	84	94
5	15	25	35	45	55	65	75	85	95
6	16	26	36	46	56	66	76	86	96
7	17	27	37	47	57	67	77	87	97
8	18	28	38	48	58	68	78	88	98
9	19	29	39	49	59	69	79	89	99
10	20	30	40	50	60	70	80	90	100

- A. 11
- B. 9
- C. 7
- D. 5
- E. None of the above

Ans: B

Question 9 (Combinatorics)

How many different ways are there to get \$10 using \$1, \$2 or \$5 notes?

- A. 3
- B. 5
- C. 8
- D. 10
- E. None of the above

Ans: D

Question 10 (Pattern)

What is the next number in the sequence below?

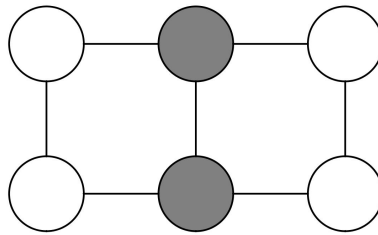
30, 20, 26, 17, 22, 14, 18, ...

- A. 11
- B. 32
- C. 16
- D. 12
- E. None of the above

Ans: A

Question 11 (Number Logic)

Each of the numbers 3, 4, 5, 6, 7 and 8 is to be placed in each circle in the diagram. The sum of the numbers in each square is 20. What is the sum of the numbers in the shaded region?



- A. 7
- B. 8
- C. 9
- D. 11
- E. None of the above

Ans: A

Question 12 (Number Logic)

A stack has 9 different number cards. The numbers are from 1 to 9. Alex, Benjamin, Carol and Danish each draw 2 cards. It is given that

- the sum of the cards drawn by Alex is equal to 10
- the difference of the cards drawn by Benjamin is equal to 1
- the product of the cards drawn by Carol equals to 24
- the quotient of the cards drawn by Danish is equal to 3.

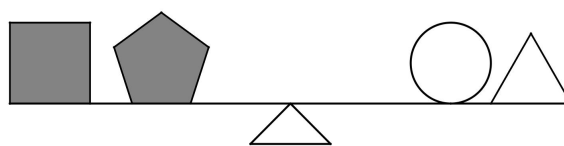
Which number card is still left in the stack?

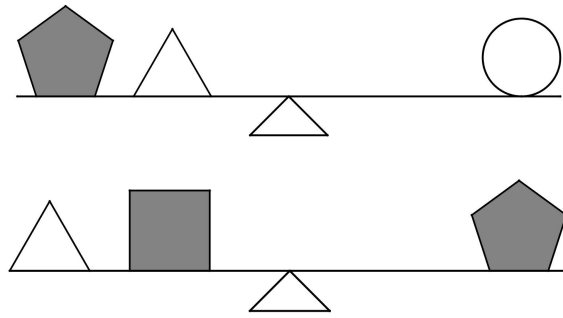
- A. 3
- B. 2
- C. 5
- D. 7
- E. None of the above

Ans: D

Question 13 (Measurement, Weight)

Some shapes are placed on both sides of the balance scale. If the two sides weigh the same, the balance scale will be balanced.





Which of the following is ordered from the heaviest to the lightest?

- A.
- B.
- C.
- D.

E. None of the above

Ans: C

Question 14

A shop sells 1 pen for \$1, 5 pens for \$4 and 10 pens for \$7. Luke can buy up to 28 pens, Drake can buy up to 29 pens. If both Luke and Drake combine their money, what is the greatest number of pens they can buy?

- A. 29 pens
- B. 57 pens
- C. 60 pens
- D. 70 pens
- E. None of the above

Ans: E

Question 15 (Perimeter)

The length of rectangle is 12 cm and its breadth is 9 cm. If the length of the rectangle is increased to 6 cm more than twice the original length, and the breadth is increased by 11 cm, what is the new perimeter?

- A. 76
- B. 100
- C. 88

- D. 82
- E. None of the above

Ans: B

Question 16 (Age)

Mrs. Tan is currently 59 years old. She has 3 grandchildren and their ages are 11, 13 and 17. In how many years' time will Mrs. Tan's age be equalled to the sum of her grandchildren's ages?

Answer: 9 years

Question 17 (Multiples)

Sally bought some sweets from a grocery shop. The number of sweets she bought is a multiple of 7. If she had bought 1 more sweet, the number of sweets she bought would be a multiple of 9. If Sally bought less than 50 sweets, how many sweets did Sally buy?

Answer: 35

Question 18 (Max)

The sum of several whole numbers is equal to 14. What is the greatest product of these whole numbers?

Answer: 162

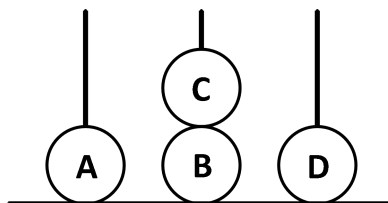
Question 19 Number Logic

An unknown number is an even number greater than 450 but less than 500. The sum of its digits is five times the hundreds digit. What is the value of the unknown number?

Answer: 488

Question 20 (Combinatorics)

The diagram below shows a toy with three standing rods and four beads (A, B, C and D). Betty takes one bead at a time until all beads are taken. How many different ways can Betty take all the beads?



Answer: 12 ways

Question 21

John wrote a 4-digit number on a paper and asked Peter to guess the number.

Peter asked, "Is the number 1234?"

John replied, "One of the digits is correct and the position of that digit is also correct."

Peter asked again, "Is the number 5167?"

John replied, "Two digits are correct, but the positions of these two digits are wrong."

Peter asked again, "Is the number 8691?"

John said, "All four digits are correct, but the digits are all in the wrong places."

What is the number written by John?

Answer: 1986

Question 22 (Working Backwards)

Gary adds two 2-digit numbers. In one of the numbers, he accidentally reads digit 2 as 5 in the ones place and the digit 6 as 9 in the tens place. He gets 121 as the result. If Gary reads the digits correctly, what is the correct sum of these two numbers?

Answer: 88

Question 23 (Cryptarithm)

In the following, all the different shapes stand for different digits. Find the sum of ☆ and ♡.

$$\begin{array}{r} 1 \quad 2 \quad 8 \\ - \quad \star \quad \heartsuit \\ \hline \quad 8 \quad \heartsuit \\ \hline \end{array}$$

Answer: 12

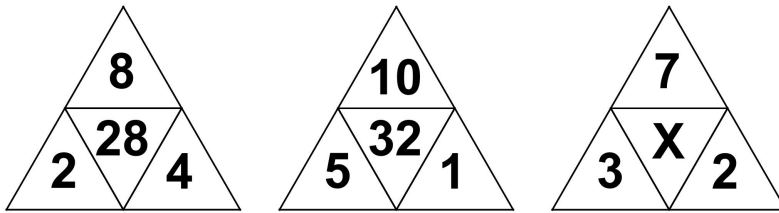
Question 24 (Max)

The difference between two 3-digit numbers is 217. What is the greatest possible value of the sum of these two numbers?

Answer: 1781

Question 25 (Pattern)

Observe the pattern in the diagram below. Find the value of "X".



Answer: 24