

1 Dora the Explorer created a number pattern.

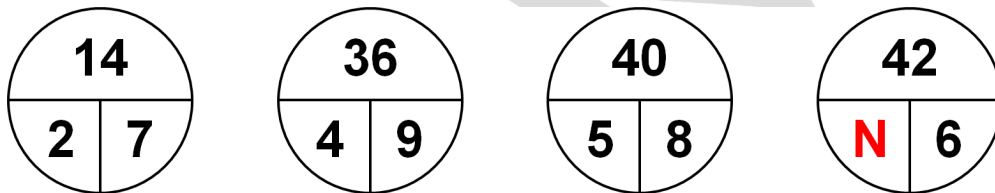
The first six numbers in Jessica's number pattern are shown below.

2	8	15	23	32	42
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What number comes next in Dora's number pattern?

- A 52
- B 53
- C 54
- D 55
- E 56

2 The numbers in the four circles below follow the same pattern. What number is N?



- A 7
- B 8
- C 9
- D 12
- E 16

3 Bugs Bunny was arranging stamps in an album.

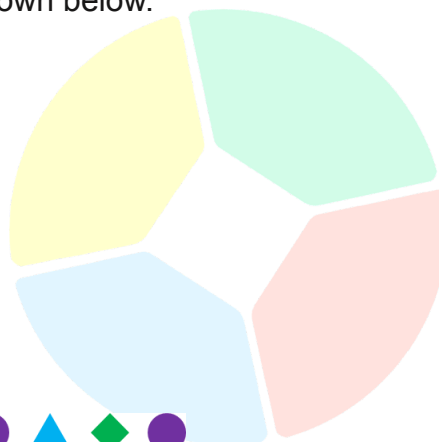
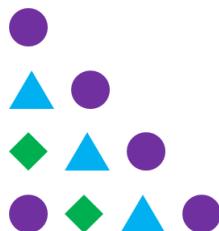
He put 25 stamps on the first page, 32 stamps on the second page, 39 stamps on the third page, and 53 stamps on the fifth page.

If the number of stamps Bugs Bunny put on each page followed a pattern, how many stamps did he put on the fourth page?

- A 42 stamps
- B 43 stamps
- C 44 stamps
- D 45 stamps
- E 46 stamps

4 Freddie created a pattern using shapes of different colours.

The first four rows in the pattern he created are shown below.



Which of these shows the next row in his pattern?



5 A multiplication pattern over increasing place value is shown below.

0.045 ×		= 0.225
0.45 ×		= 2.25
4.5 ×		= 22.5
45 ×		= 225
450 ×		= 2 250

What number will complete the pattern?

A 3

D 9

B 5

E 11

C 7

6 The fractions below show a pattern of equivalent fractions.

$$\frac{5}{2} = \frac{10}{4} = \frac{20}{8} = \frac{40}{?} = \frac{60}{24}$$

What denominator completes the pattern?

A 10

D 16

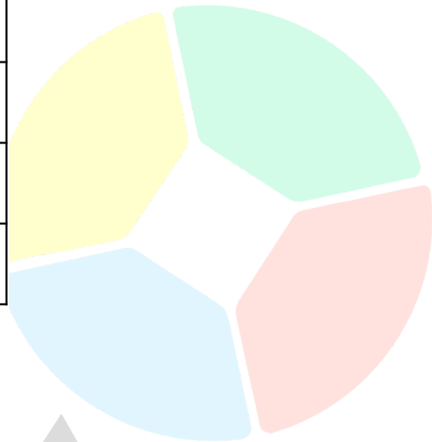
B 12

E 18

C 14

- 7 In the magic square below, the numbers 1 to 16 go once in each square such that each row, each column, and each diagonal totals to the same sum.

9	6	15	
16			5
2		8	
7	N	1	



What number is **N**?

- A 3
B 10
C 12
D 13
E 14
- 8 On the last day of school, the student who received the second highest mark gets 46 medals, the student who received the third highest mark gets 42 medals, the student who received the fourth highest mark gets 38 medals, and the student who received the fifth highest mark gets 34 medals.

If the number of medals the students get followed a pattern, how many medals did the student who received the highest mark get?

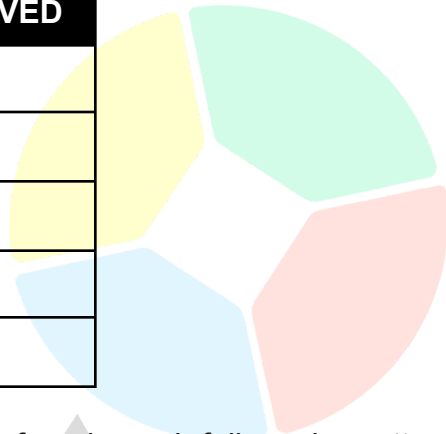
- A 50 medals
B 52 medals
C 54 medals
D 55 medals
E 56 medals
- 9 The number of balls in each box followed a pattern.
- The first box contained 180 balls, the third box contained 60 balls, the fourth box contained 40 balls, the fifth box contained 30 balls, and the sixth box contained 25 balls.

How many balls are there in the second box?

- A 160 balls
B 150 balls
C 100 balls
D 90 balls
E 80 balls

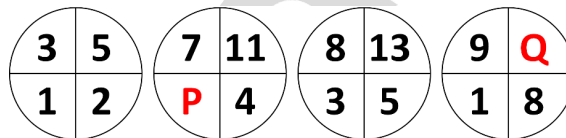
- 10 Debbie used the table below to keep track of how much money she had saved at the end of each week.

WEEK	MONEY SAVED
3	\$29
4	\$36
5	\$43
6	\$50
7	\$57



If the amount of money Debbie saved at the end of each week followed a pattern, how much money did she save at the end of week 9?

- A \$50
B \$57
C \$64
D \$71
E \$78
- 11 The numbers in each of the four circles below follow the same pattern.



What is the value of $P + Q$?

- A 15
B 16
C 17
D 18
E 20

12 The numbers in each of the four brackets follow the same rule.

[5, 5, 25] [20, □, 4] [4, 8, 32] [6, 9, 54]

What number is □?

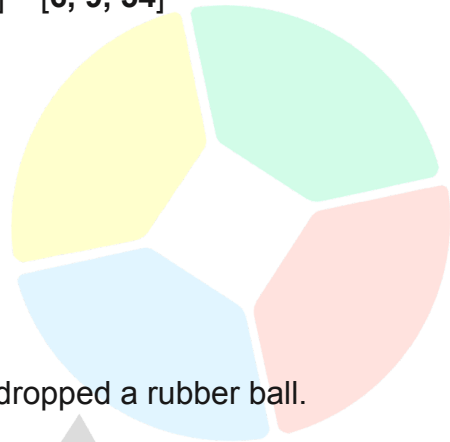
A $\frac{1}{5}$

B 5

C 6

D 20

E 25



13 Superman flew to the top of the building and then dropped a rubber ball.

The height that the ball reached after bouncing from the floor was exactly 60 percent of the previous height.

If the ball reached a height of exactly 180 centimetres after bouncing the third time, at what height did Superman drop the ball?

A $833\frac{1}{3}$ centimetres

B 720 centimetres

C 680 centimetres

D 650 centimetres

E 500 centimetres

14 Taylor created a number pattern by adding 11 to the previous term to get the next term.

The first term in her number pattern is 5.

Which of the following statements must be true?

A Each number in her number pattern is even.

B The 252nd number in her number pattern is even.

C Each number in her number pattern is a multiple of 11.

D Each number in her number pattern is odd.

E The 198th number in her number pattern is odd.

15 The numbers shown below follow a pattern.

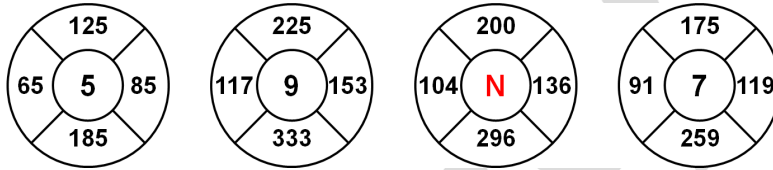
1	1	2	3	4	6	9	?	19	28	41
---	---	---	---	---	---	---	---	----	----	----

What number completes the pattern?

- A 10
- B 12
- C 13
- D 15
- E 16



16 The numbers in each of the four circles below follow the same pattern.



What number is N?

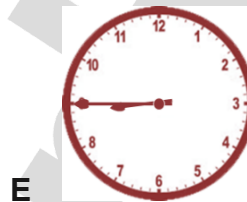
- A 6
- B 8
- C 10
- D 12
- E 15

Scholar

17 The times on the analogue clocks below follow a pattern.



Which analogue clock comes next?



School

18 Some of the numbers in this addition square are missing.

33		N	44	C o l u m n T o t a l
	10		38	
21	12		46	
66		37	128	
Row Total				

What number is **N**?

A 10

D 7

B 9

E 3

C 8

19 Joy created a number pattern such that each number after the first number is seven more than three halves of the preceding number.

If the first number is 2, what is the fifth number?

A 36

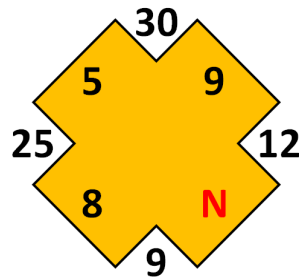
D 64

B 44

E 67

C 58

23 The numbers in the figure below follow a pattern.



What number is **N**?

- A 3
- B 4
- C 6
- D 7
- E 12

24 William created a number pattern such that each number in the number pattern after the first number is 12 more than the previous number.

If the first number in William's number pattern was 48, which of the following numbers does not belong to the number pattern that Victor created?

- A 204
- B 276
- C 378
- D 540
- E 636

25 In a certain number pattern. The first number is 136, the second number is 142, the third number is 148, the fourth number is 154, and the fifth number is 160.

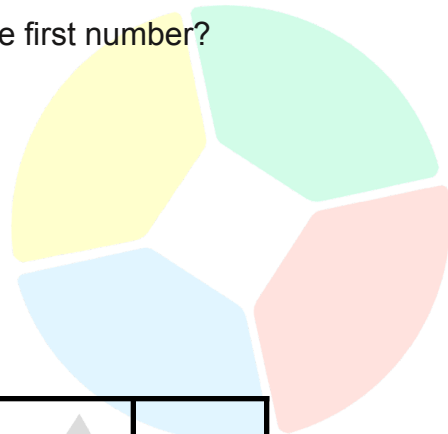
If this pattern continues, what will be the units digit of the 296th number?

- A 0
- B 2
- C 4
- D 6
- E 8

- 26 The passcode to a certain vault is a sequence of eight consecutive even numbers in increasing value.

If the last number in the passcode is 78, what is the first number?

- A 70
B 68
C 66
D 64
E 62



- 27 The numbers below follow a pattern.

-64	-56	-48	-40	-32	-24
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If the pattern continues, which of the following could not be a number in the pattern?

- A 0
B 8
C 24
D 66
E 96
- 28 The town of Sleepy Hallow hired Ichabod Crane for seven days to investigate the infamous headless horseman.

Each day, Ichabod was paid \$10 more than what he was paid for the preceding day.

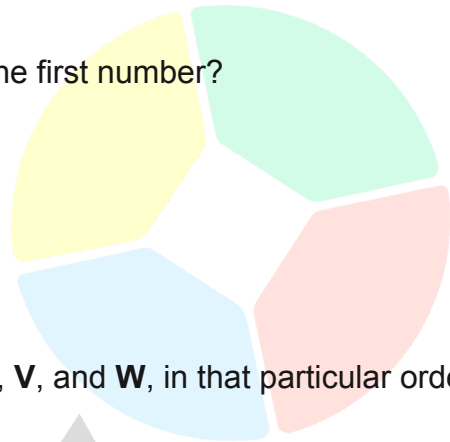
If the total amount he was paid in the first 4 days equaled the total amount he was paid in the last 3 days, how much was he paid on the first day?

- A \$90
B \$100
C \$120
D \$140
E \$160

- 29 The passcode to Cruella de Vil's vault is a sequence of three numbers such that the second number is two times the first number and the third number is three times the second number.

If the third number in the passcode is 18, what is the first number?

- A 2
B 3
C 4
D 6
E 8

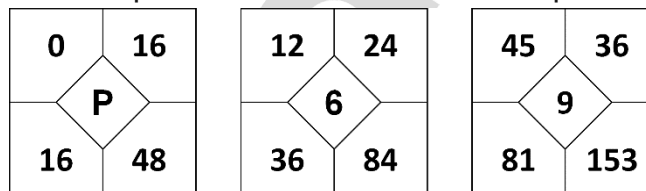


- 30 In a sequence of eight numbers, **P**, **Q**, **R**, **S**, **T**, **U**, **V**, and **W**, in that particular order, the value of **R** is 5.

If any three consecutive terms in the sequence total 30, what is the sum of the first and last term?

- A 17
B 18
C 25
D 26
E 43

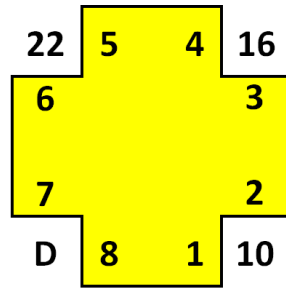
- 31 The numbers in the three squares below follow the same pattern.



What number is **P**?

- A 4
B 5
C 7
D 8
E 12

32 The numbers in the figure below follow a pattern.



What number is D?

- A 24
- B 25
- C 26
- D 28
- E 32

33 Each set of three numbers below follows the same rule.

9	3	21
---	---	----

81	9	63
----	---	----

25	5	35
----	---	----

169	J	91
-----	---	----

What number is J?

- A 10
- B 11
- C 12
- D 13
- E 15

34 Some of the numbers in this addition grid are missing.

3		Q	12	C o l u m n T o t a l
7		8		
	33		39	
Row Total				
	43	17	75	

What number is Q?

- A 9
- B 8
- C 6
- D 5
- E 3

35 The numbers below follow a pattern.

6	7	15	53	257
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What is the missing number in the pattern?

- A 1 285
- B 1 321
- C 1 417
- D 1 477
- E 1 533

36 Snow White has five square rose gardens of varying sizes.

The first rose garden has a perimeter of 12 metres, the third rose garden has a perimeter of 20 metres, the fourth rose garden has a perimeter of 24 metres, and the fifth rose garden has a perimeter of 28 metres.

If the sizes of the rose garden follow a pattern, what is the perimeter of the second rose garden?

- A 14 metres
- B 15 metres
- C 16 metres
- D 18 metres
- E 19 metres

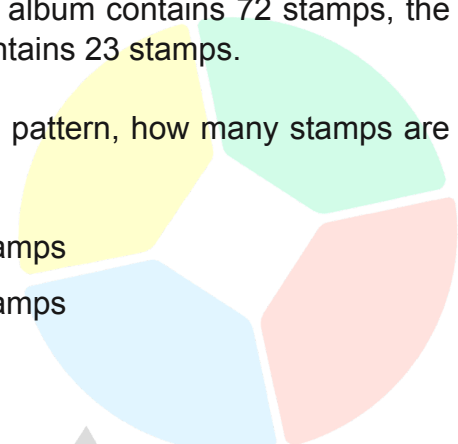
37 Big Bird has five stamp albums.

The first album contains 128 stamps, the second album contains 72 stamps, the fourth album contains 30 stamps, and the fifth album contains 23 stamps.

If the number of stamps in each album follows a pattern, how many stamps are in the third album?

- A 64 stamps
- B 56 stamps
- C 50 stamps

- D 44 stamps
- E 36 stamps



38 Jericho made a pyramid by stacking layers of toy blocks.

The bottom layer consists of 9 rows, each containing 5 toy blocks.

If each succeeding layer has one fewer row and each row has one fewer toy block, how many toy blocks are on the fifth layer?

- A 5 toy blocks
- B 8 toy blocks
- C 12 toy blocks

- D 14 toy blocks
- E 15 toy blocks

39 The water level at the reservoir decreases at a constant rate.

The water level on day 1 was 800 metres, the water level on day 2 was 640 metres, the water level on day 3 was 512 metres, and the water level on day 4 was 409.6 metres.

What was the water level at the reservoir on day 5?

- A 336.72 metres
- B 327.68 metres
- C 298.16 metres

- D 236.44 metres
- E 204.8 metres

40 The store manager of the supermarket wanted a pyramid display for the canned tunas.

The bottom layer had 10 rows, each containing 8 canned tunas.

The second layer had 77 canned tunas, the third layer had 71 canned tunas, and the fourth layer had 62 canned tunas.

If this pattern continued, which layer had 50 canned tunas?

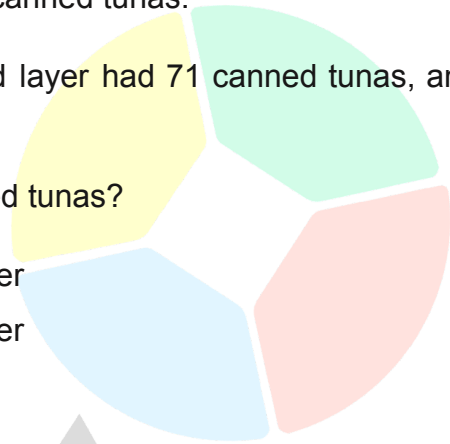
A 5th layer

B 6th layer

C 7th layer

D 8th layer

E 9th layer



Scholarly