ALBERTA MATH 30-2 · UNIT 2 · 25 QUESTIONS

Counting Methods — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A diner offers 3 appetizers, 5 main courses, and 2 desserts. The number of different meals consisting of one appetizer, one main course, and one dessert is**

- **A** 10
- **B** 15
- **C** 30
- **D** 60

Understand It with Pulse | Flag a mistake

2 **The value of ${}_6P_3$ is**

A 120

B 20

C 60

D 720

Understand It with Pulse | Flag a mistake

3 **The value of ${}_8C_3$ is**

A 336

B 24

C 112

D 56

Understand It with Pulse | Flag a mistake

4 **A lock uses a code that consists of 4 digits. Each digit can be any digit from 0 to 9, and digits may be repeated. The number of different codes that are possible is _____ Record your answer as a whole number.**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **Five different photos are arranged in a row on a wall. The number of different arrangements of the photos is**

A 25

B 120

C 60

D 720

Understand It with Pulse | Flag a mistake

6 **From a class of 12 students, a president, a vice president, and a secretary are chosen. The number of ways the three positions can be filled is**

- A 220
- B 36
- C 1728
- D 1320

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7 **A committee of 4 people is chosen from 9 volunteers. The number of different committees that can be formed is**

- A 126
- B 3024
- C 36
- D 6561

Understand It with Pulse | Flag a mistake

8 **The number of different arrangements of all the letters in the word LEVEL is**

A 120

B 60

C 30

D 20

Understand It with Pulse | Flag a mistake

9 **The graph below shows one route from home to school on a grid, moving only east or north. The number of different routes from the start of the shown route to its end is**

A 12

B 210

C 60

D 35

Understand It with Pulse | Flag a mistake

10 **A licence plate consists of 3 letters followed by 3 digits. Letters and digits may be repeated. The number of different licence plates that are possible is _____ Record your answer as a whole number, with no commas.**

ANSWER _____

Understand It with Pulse | Flag a mistake

11 **The sum of the entries in row 10 of the Pascal triangle is**

A 512

B 1024

C 100

D 2048

Understand It with Pulse | Flag a mistake

12 **A team of 5 students is selected from 6 boys and 5 girls. The number of teams that consist of exactly 3 boys and 2 girls is**

- A 462
- B 150
- C 200
- D 300

Understand It with Pulse | Flag a mistake

13 **The number of different arrangements of all the letters in the word BANANA is _____ Record your answer as a whole number.**

ANSWER _____

Understand It with Pulse | Flag a mistake

14 **A committee of 4 people is chosen from 7 men and 5 women. The number of committees that include at least one woman is**

- A 35
- B 460
- C 495
- D 175

Understand It with Pulse | Flag a mistake

15 **Six people line up for a photo. Two of the people, Ana and Ben, must stand beside each other. The number of different arrangements of the six people is**

- A 240
- B 120
- C 720
- D 480

Understand It with Pulse | Flag a mistake

16 **On a grid, every path from A to B requires 5 moves right and 4 moves down, moving only right or down. Point P is reached from A after 2 moves right and 1 move down. The number of paths from A to B that pass through P is**

- A 30
- B 126
- C 252
- D 60

Understand It with Pulse | Flag a mistake

17 **Every student in a class shakes hands with every other student exactly once. If there are 45 handshakes in total, the number of students in the class is _____ Record your answer as a whole number.**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **A four digit number is formed using digits from 0 to 9, with repetition allowed. The number of such numbers that can be formed is**

- A 10000
- B 5040
- C 9000
- D 6561

Understand It with Pulse | Flag a mistake

19 **A bookshelf holds 5 novels and 4 biographies. Maya selects 3 books from the shelf. The number of selections that consist of exactly 2 novels and 1 biography is**

- A 84
- B 40
- C 20
- D 120

Understand It with Pulse | Flag a mistake

20 **The graph below shows one route a delivery driver takes on a grid, moving only to the right or up. The number of different routes the driver can take from the start of the shown route to its end is ____ Record your answer as a whole number.**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **The number of different arrangements of all the letters in the word MISSISSIPPI is**

A 34650

B 69300

C 831600

D 39916800

Understand It with Pulse | Flag a mistake

22 **An expression that is equivalent to ${}_9C_4 + {}_9C_5$ is**

A ${}_{10}C_4$

B ${}_{19}C_9$

C ${}_9C_9$

D ${}_{10}C_5$

Understand It with Pulse | Flag a mistake

23 **A security code consists of 4 digits followed by 2 letters. Digits may be repeated, but the two letters cannot be the same. The number of different security codes that are possible is _____ Record your answer as a whole number, with no commas.**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **Eight students are seated in a row for a photo. Two particular students refuse to sit beside each other. The number of different seating arrangements is**

A 40320

B 10080

C 30240

D 20160

Understand It with Pulse | Flag a mistake

25 **On a grid, a path from A to B requires 7 moves to the right and 5 moves down. Moving only right or down, the number of different paths from A to B is _____ Record your answer as a whole number.**

ANSWER _____

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. C
2. A
3. D
4. 10000
5. B
6. D
7. A
8. C
9. D
10. 17576000
11. B
12. C
13. 60
14. B
15. A
16. D
17. 10
18. C
19. B
20. 210
21. A
22. D
23. 6500000
24. C
25. 792

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