ALBERTA MATH 30-2 · UNIT 2 · 10 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 **The graph below shows one route Maya walks 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** 20
- **B** 60
- **C** 10
- **D** 120

Understand It with Pulse | Flag a mistake

2 **A display case will hold 4 items chosen from 7 paintings and 5 sculptures. The number of displays that consist of exactly 2 paintings and 2 sculptures is**

- A 495
- B 210
- C 105
- D 420

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3 **Three digit numbers are formed using digits from 1 to 9, and no digit can be used more than once in a number. The number of such numbers that can be formed is _____ Record your answer as a whole number.**

ANSWER _____

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4 **One row of the Pascal triangle is 1, 6, 15, 20, 15, 6, 1. The value of ${}_6C_2$ is**

A 6

B 20

C 15

D 30

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5 **Five friends line up for a photo, and Maya must stand at one of the two ends of the line. The number of different arrangements of the five friends is**

A 120

B 60

C 48

D 24

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6 **The number of different arrangements of all the letters in the word SASKATOON is _____ Record your answer as a whole number, with no commas.**

ANSWER _____

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7 **A reading list of 3 books is chosen from 8 fiction books and 6 nonfiction books. The number of lists that include at least one nonfiction book is**

A 364

B 56

C 216

D 308

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8 **From 12 runners, a relay team of 4 runners is chosen and assigned running positions. The fastest of the 12 runners must be on the team and must run the last leg. The number of different teams with running orders is**

A 990

B 11880

C 1320

D 220

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9 **A code consists of 2 different consonants, in order, followed by 2 different vowels, in order. The consonants are chosen from B, C, D, F, and G, and the vowels are chosen from A, E, and I. The number of different codes that are possible is _____ Record your answer as a whole number.**

ANSWER _____

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10 **A team of 4 students is chosen from 15 students, and then one of the 4 team members is chosen as captain. The number of different teams with a captain that can be formed is**

A 1365

B 5460

C 32760

D 2730

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ANSWER KEY

1.	C	**5.**	C	**9.**	120
2.	B	**6.**	45360	**10.**	B
3.	504	**7.**	D		
4.	C	**8.**	A		

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