

VECTOR ADDITION

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How Did People Migrate to the Americas? Bison DNA Helps Chart the Way

AMERICA DURING LAST ICE AGE



INTRODUCTION: Goal of this application is to find vector displacement from Alaska to Greenland. Alaska to N USA as said below is 900 miles. See graphic above. The 900 miles is @ 45° below +X axis. N USA vector to Greenland (cont. at right)

INTRODUCTION(CON.): is 2000 miles at 75° above + X axis (see graphic above).

HINTS: Finding resultant vectors is made possible by breaking vectors into components first and then adding X & Y components to find RESULTANTS X & Y components. Pythagoras & Tangent function is then used.

QUESTION: Find resultant displacement Alaska to Greenland? Finding resultant vector requires finding both the magnitude and direction. Black vector in graphic.

ANSWERS: R = 1735 miles @ 48.31° North of East

Two teams of scientists have succeeded in dating the opening of the gateway to America, only to disagree over whether the **Clovis people** — one of the first groups from Siberia to reach the Americas — ever used the gateway to gain access to the New World.

About 23,000 years ago, in a period of intense cold that preceded the end of the last ice age, glaciers from west and east merged to cut off Alaska from North America. With so much of the world's water locked up in ice, **sea levels were much lower and a now-lost continent, Beringia, stretched across what is now the Bering Strait to join Siberia to Alaska.** But people who had trekked across Beringia to Alaska could go no further because of the ring of glaciers that blocked their way south. **Ten thousand years later,** the glaciers started to retreat and an **ice-free corridor, (roughly 900 miles long, opened between Alaska and the Americas.)** In the middle of the corridor lay a body of water, 6,000 square miles in area, fed by the melting glaciers and known as Glacial Lake Peace. **Not until the lake had drained away, and plants and animals had recolonized the corridor, would early peoples have been able to support themselves as they traversed the corridor between the glaciers.** They say that 12,500 years ago is the first date at which the corridor would have been able to supply bison for human travelers.