

Musher Math:

Word Problems

IN THE WINTER OF 1925, there was an outbreak of diphtheria in the remote area of Nome, Alaska. The townspeople and those in the surrounding area were at great risk of catching the disease. Several of Nome's 1,400 residents had already died, and 28 more were in desperate need of treatment. Unfortunately, the only doctor in the area had run out of serum. A quick delivery of serum was vital to save lives, but the port was closed for the winter. No boats could get to them. The town faced the huge obstacle of having serum delivered in the middle of the harsh Alaskan winter.

In an extraordinary feat, a relay of 20 dogsled teams delivered the serum to Nome in record time.

After the serum was transported by train from the port of Seward to Nenana, the "Great Race of Mercy" began. The first dogsled team took off from Nenana and started the 674-mile journey to Nome. Twenty mushers and their dogs worked together to relay the 20-pound package of precious cargo over 674 miles of rugged, frozen terrain. They traveled as fast as they dared in blinding snow and blizzards. Freezing temperatures ranged from -30 degrees F to -64 degrees F. Each trip was death-defying. The relay began at around 11:00 PM on January 27th and ended with the successful delivery of serum at 5:30 AM on February 2nd.

Use the account of the famous 1925 serum relay and the Musher Distances chart below to answer the questions on the next page.

MUSHER DISTANCES

DATE	MUSHER	STARTING TOWN	FINISHING TOWN	DISTANCE
01/27/25	Wild Bill Shannon	Nenana	Tolovana	52 miles
01/28/25	Edgar Kalland	Tolovana	Manley Hot Springs	31 miles
	Dan Green	Manley Hot Springs	Fish Lake	28 miles
	Johnny Folger	Fish Lake	Tanana	26 miles
	Sam Joseph	Tanana	Kallands	34 miles
	Titus Nikolai	Kallands	Nine Mile Cabin	24 miles
	Dave Corning	Nine Mile Cabin	Kokrines	30 miles
	Harry Pitka	Kokrines	Ruby	30 miles
	Bill McCarty	Ruby	Whiskey Creek	28 miles
	01/30/25	Edgar Nollner	Whiskey Creek	Galena
George Nollner		Galena	Bishop Mountain	18 miles
Charlie Evans		Bishop Mountain	Nulato	30 miles
Tommy Patsy		Nulato	Kaltag	36 miles
Jackscrew		Kaltag	Old Woman Shelter	40 miles
Victor Anagick		Old Woman Shelter	Unalakleet	34 miles
01/31/25	Myles Gonangnan	Unalakleet	Shaktoolik	40 miles
	Henry Ivanoff	Shaktoolik	Shaktoolik	0 miles
	Leonhard Seppala	Shaktoolik	Golovin	91 miles
02/01/25	Charlie Olson	Golovin	Bluff	25 miles
	Gunnar Kaasen	Bluff	Nome	53 miles

Questions

1. If 125,000 units could effectively treat six patients, how many units would the doctor need to treat the 28 new cases of diphtheria?

2. How many total hours did the journey from Nenana to Nome take?

3. Round your answer from question 2 to the nearest whole number. If the distance of the “Great Race for Mercy” spanned 674 miles, what was the average speed of a musher and his sled dogs? Round your answer to the nearest tenths place.

Hint: rate = distance/time

4. Find the mean and median for the distance data in the table on the previous page.

median:

mode:

5. Brrrrrr! The following freezing cold temperatures (F) were recorded during the Serum Run:

-50, -30, -30, -35, -40, -42, -44, -47, -43, -40, -50, -64, -58, -50, -50, -40, -30

Use these values to create a stem-and-leaf plot. What are the median and mode of this data?

median:

mode:

stem and leaf plot: