

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Mathematical Morning Meal Challenge

### Iditarod Edition!

#### Challenge #1: Blocking the Next Quilt

Terrie Hanke, the seamstress who puts together all of the Iditarod Traveling Quilts, has enough squares from schools to build a new quilt. She says:

“ I have twelve quilts squares from schools. Each square is sixteen by sixteen inches. I want to put the quilt on a large piece of fleece. I want a three inch border on all sides of the quilt and three inches between all of the squares. How much fleece will I need to buy?”

Can you help her out?

Extra, extra challenge: If fleece is on sale this week at Joann Fabrics for \$3.99 a yard, how much money will it cost her to buy the fleece she needs?



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### Challenge #2: Puppy Paw Power!

Several weeks before the start of the Iditarod, a large group of volunteers gets together at headquarters to make the foot ointment that the vets will use along the trail. The formula for the ointment is 3 parts zinc oxide, 2 parts thuma-zinc oxide, 1 part triamcinalone, and 875cc mineral oil.

The volunteers have a two quart pitcher to use to measure out the ingredients. They need to make a batch for each checkpoint along the trail.



(Hint: the two quart pitcher = 1 part)



Calculate how much of each ingredient is going to be needed to make the ointment for this year's race. Be sure to document and explain your thinking. Also be certain to label your answers.

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#### Challenge #3: Timing is Everything!

At the checkpoint you have to melt snow to make food for your dogs. Suppose you have to boil the melted snow for exactly 15 minutes, but you have no watch or clock. You have only a seven minute and an eleven minute hourglass. How could you time exactly fifteen minutes using only these two hourglasses?

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#### Challenge #4: The Case of the Missing Tang!

Apparently one of the favorite things for volunteers and mushers to drink at checkpoints is Tang! In fact, there are stories about what happens when the Tang runs out that are not pretty! One day at a Yentna, the Comms person put out a tray of glasses filled with Tang and went off to check her computer. By the time she came back, there was no Tang left for her!

The vet drank half of the glasses. A musher came in and drank a fourth of the glasses. The Teacher on the Trail was there, but she only drank one glass. The Race Judge had three glasses.

How many glasses had the Comms person put on the tray to start with?

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### Challenge #5: Filling Up the Tank!

Martin Buser estimates that he eats 6,500 calories a day during the race. If you wanted to eat only at McDonald's for one day and eat as many calories as Martin Buser eats in a race day, what would you order?

You can see a menu with calories at this link:

[http://www.mcdonalds.com/us/en/full\\_menu\\_explorer.html](http://www.mcdonalds.com/us/en/full_menu_explorer.html)

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#### Challenge #6: Chores Galore!

As you can imagine, there are chores galore at any Iditarod musher's kennel. Here is one kennel's schedule:

Give dogs a bath: every four days

Clean out dog houses: every six days

Wash and rinse dog bowls: every two days

Make repairs to harnesses: every three days

How many times in twelve weeks will all four chores need to be done on the same day?

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#### Challenge #7: Feet to the Line!

On Sunday, March 3<sup>rd</sup>, 65 teams departed Willow to embark on the 41<sup>st</sup> Iditarod! The sixty-sixth musher, Ed Stielstra, scratched due to an injury that happened in training prior to the race. Mikhail Telpin started with 12 dogs. Cindy Abbott, Bob Chulpach, and Rudy Demonski each started 14 dogs and Charley Bejina started with 15 dogs. All of the other mushers fielded full teams of sixteen dogs!

How many feet crossed the starting line and started down the trail to Nome on restart day?

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## Mathematical Morning Meal Challenge

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### Challenge #8: Filling the Tank, Part 2

Iditarod dogs consume about 10,000 calories a day during the race! How many of your favorite candy bars would you have to eat to equal the same number of calories?

Here's a link that has the calories of many candy bars. Be sure to take note of the size of each bar. <http://calorielab.com/foods/candy-bars/108>



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#### Challenge #9: Managing the MPHs

Dallas Seavey is planning to leave Shaktoolik at 11:00pm and camp at a spot seventeen miles down the trail. He is travelling at a speed of four miles per hour. He passes Aily Zirkle who is camping on the trail at 12:45. If he wants to make it to his camp site by 2:00am, how fast does he need to travel from his Aily's campsite to his campsite?

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### Challenge #10: Tight Parking

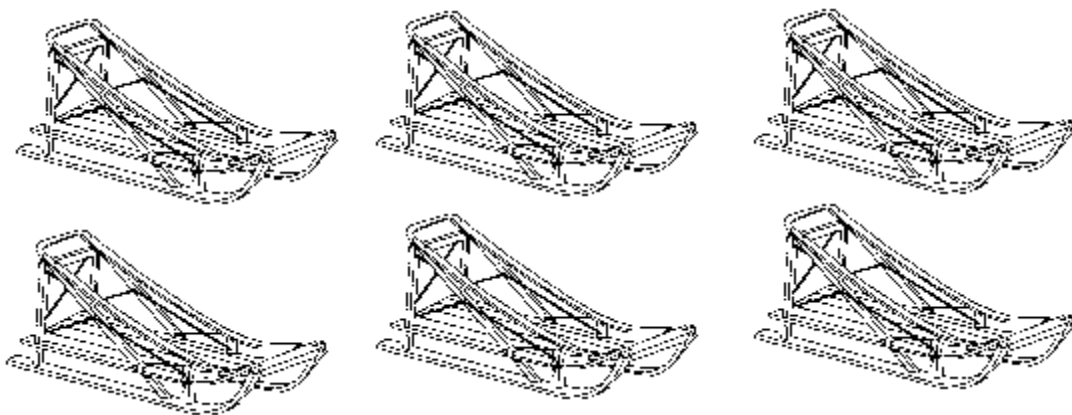
Six sleds are parked in front of the Takotna checkpoint for their twenty-four hour rest. You are looking at the sleds from the front. Can you figure out which musher is parked in which spot?

Jeff King is parked in front of Dee Dee Jonrowe.

Aaron Burmeister is parked between Dee Dee Jonrowe and Monica Zappa.

Jason Mackey is parked on the right side of Jeff King.

Jake Berkowitz is parked in front of Monica Zappa.



Front