

# MARCH

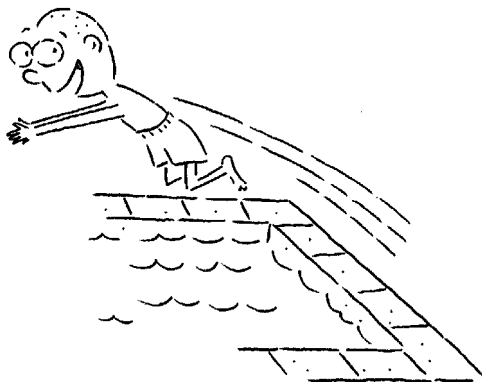


## FRACTIONS

### Game Day

Roberto shaved his head when he joined the swim team on March 1. Roberto's hair grows at a rate of  $\frac{2}{5}$  inch per month.

**How long will his hair be on September 1 when the swim season ends?**



## PROBLEM SOLVING

### Migration

Spring is the time when many animals migrate to their northern homes. Gray whales travel from Baja, California, to the Bering Sea in Alaska to feed in the spring—a distance of 4,850 miles. Golden plover birds migrate 1,500 miles farther than gray whales, going from Brazil to northern Canada.

**In one round trip, how far do golden plovers travel in all?**



## TIME

### Sam in March

by Rachel

In like a lion,  
Out like a lamb—  
Like my baby brother,  
His name is Sam.  
When he wakes up  
He's loud and funny.  
But two hours later  
He's quiet as a bunny.

In one 24-hour day, Sam took 4 naps for:

- ★ 3 hours, 25 minutes,
- ★ 4 hours, 2 minutes,
- ★ 2 hours, 58 minutes, and
- ★ 4 hours, 11 minutes.

**How long was Sam awake?**





LOGICAL REASONING

**Go Fly a Kite**

Muffy, Carlos, Doug, and Shay are flying kites.

- ★ Muffy’s kite is 75 feet higher than Carlos’s kite.
- ★ Doug’s kite is 25 feet higher than Carlos’s kite, but 75 feet lower than Shay’s kite.
- ★ Carlos’s kite is 100 feet from the ground.

How far off the ground is each kite?



PERMUTATIONS

**Kickball All-Stars**

Abra, Bennie, Carla, and Dean are playing kickball.

“I want to be up first!” cries Abra.

“No, me!” says Bennie.

“No, me!” shouts Carla.

“I want to be up *last*,” says Dean.

How many different kicking orders can you think of for the four players if Dean is up last? List each order.



FRACTIONS

**Billy and Sue's Canoe**

Billy and Sue shared a canoe.

They were the best of friends.

They had a fight—neither felt right.

And here the friendship ends.

Now what to do with the canoe?

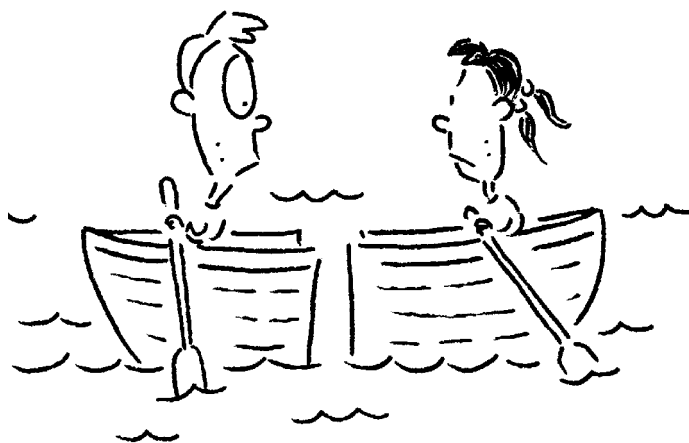
“Split it in half,” says Billy.

Sue rolls her eyes. Then she cries:

“That idea is just plain silly.”

Even though the idea was silly, Billy and Sue split the 14-foot canoe into two pieces. Billy’s piece was  $6 \frac{3}{4}$  feet in length.

How long was Sue's piece?





NUMBER OPERATIONS

**Magic Boxes**

Roses are red,  
Violets are blue.  
Fill in the magic boxes  
To make this equation true:

$$51 \square 3 = 13 \frac{1}{2} \square 3 \frac{1}{2}$$

Write a +, -, x, or ÷ sign in each box.

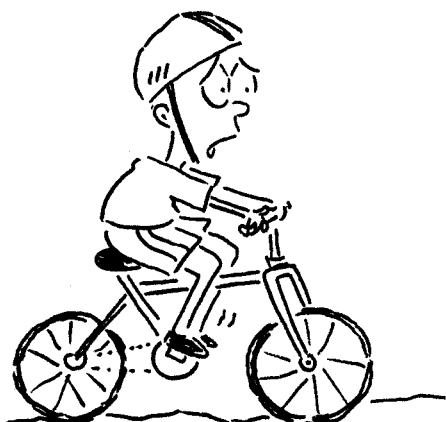


DECIMALS

**Jeff's Odometer**

The odometer on Jeff's bike isn't accurate. Every time the odometer registers 1 mile, Jeff has really only traveled 0.8 of a mile. The odometer now reads an even 100 miles.

**How many miles has Jeff really traveled?**



PROBLEM SOLVING

**Rocky Mountain High**

The tree line at Chester Mountain is at 10,500 feet above sea level. Above this altitude, there are no trees. Tara's group hiked along Chester Trail, starting at 9,750 feet. The trail went up by 1,025 feet, then dipped down 650 feet. Tara's group then climbed 440 feet before having lunch.

**Were there any trees to shade the group from the sun during lunch?**





MEASUREMENT

**Hamburger Heaven**

Jo and Mo went to Burgerville  
 And ordered a bucket of grub.  
 Their burgers and fries came out  
 super size  
 And arrived in a giant tub.  
 The hamburgers weighed in  
 at 28 ounces  
 And came in a cardboard box.  
 As for the fries, they were salty  
 and soggy  
 And heavy as french-fried rocks!

Jo and Mo each got a 28-ounce burger and  
 20 ounces of french fries.

**How many pounds did their bag weigh?**

*(HINT: 1 pound = 16 ounces)*



PROBLEM SOLVING

**Slide Ride**

Rona wants to ride the Alpine Slide Ride at  
 Chester Mountain.

Alpine Slide Ride	
1-hour pass . . . . .	\$8.50
4-hour pass . . . . .	\$24.00
8-hour pass . . . . .	\$36.00

**How much does Rona save per hour  
 by buying an 8-hour pass instead of  
 a 4-hour pass?**

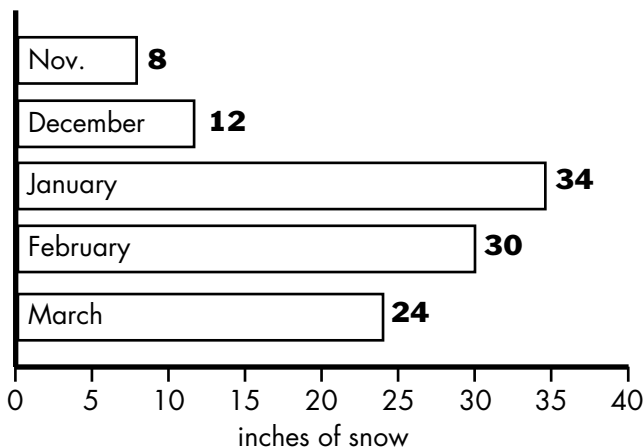
**Suppose Rona plans to ride the Slide Ride  
 for 5 hours. What pass or passes should  
 she buy to save the most money?**



GRAPHS

**March Weather**

Snowfall for Chester Mountain is shown in  
 this graph.



**How many total inches of snow fell  
 over the 5 months shown?**

**Which months got more snow than  
 March? Less snow?**

**Which two months together got  
 exactly half of the year's total  
 snowfall?**

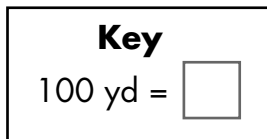
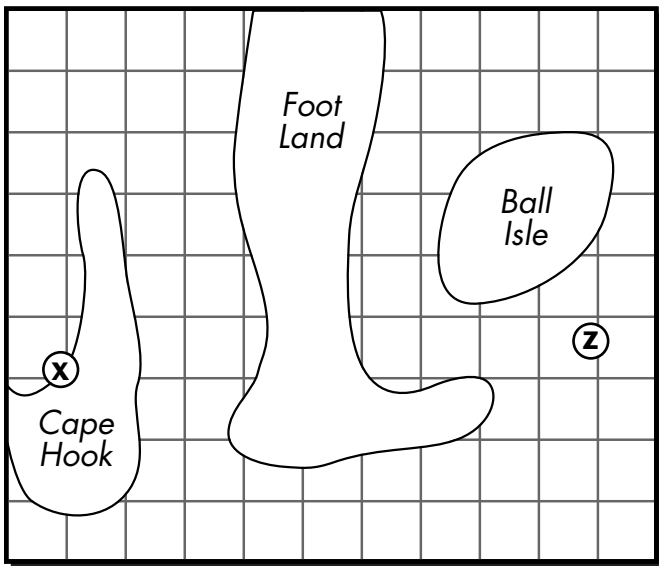


MAPS

**Canoe for Two**

Lulu and Jake want to paddle their canoe from Cape Hook to Ball Isle.

**Give directions for how they can make the trip from the X on Cape Hook to the Z on Ball Isle.**



For example, you might start out by saying, “Go north 400 yards.” Each square on the map measures 100 yards on a side.



PROBLEM SOLVING

**The Turtle and the Toad**

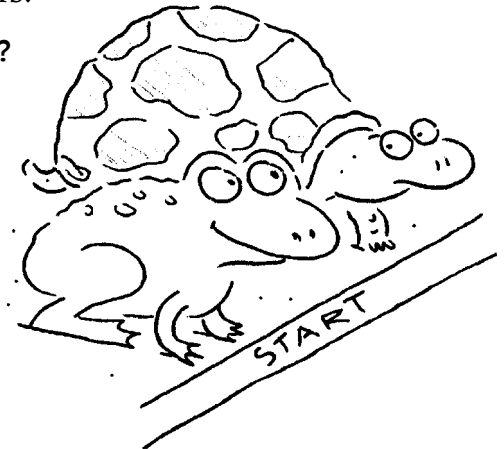
The turtle and the toad were having a race to see who was slower.

“I’m the slowest animal in the forest,” said Turtle. “I run 100 feet in 4 hours.”

“I’m slower than you,” said Toad. “I run 72 feet in 3 hours.”

**Who is slower?**

**How do you know?**



GEOMETRY

**The Impossible Triangle**

One of the three triangles described below is “impossible.”

**Which one is it? How can you fix this triangle so that it is not impossible?**

- ★ Triangle A: 4 inches by 5 inches by 6 inches
- ★ Triangle B: 4 cm by 4 cm by 4 cm
- ★ Triangle C: 3 inches by 3 inches by 7 inches

Use a ruler and strings, strips of paper, or other real objects to solve this problem.



PERMUTATIONS

**Scrambler**

Deena is having trouble unscrambling a word with these 3 letters.

**G P I**

How many different arrangements of the 3 letters can you make?

What is the word?



TIME

**Hikers**

Darcy, Jed, and Alma want to plan a 2-day hike in March on Chester Mountain.

- ★ Darcy is free from March 1 to March 10.
- ★ Jed is free from March 5 to March 15.
- ★ Alma is free from March 9 to March 18.

On what dates should the three hikers schedule their hike?

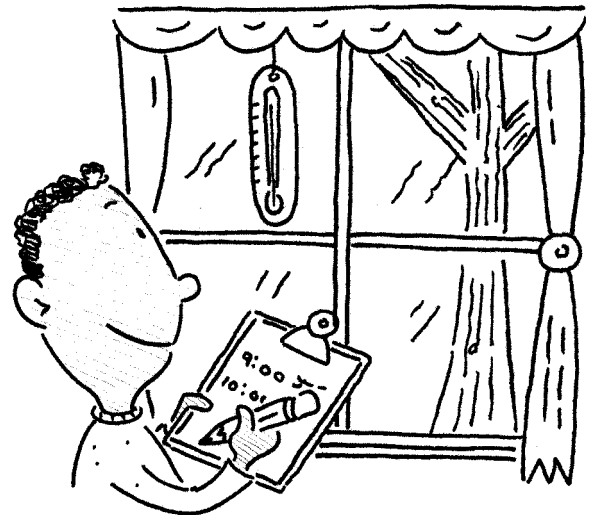


STATISTICS

**In Like a Lion,  
Out Like a Lamb**

The average temperature for the final 5 days of March was exactly 10 degrees warmer than the average temperature for the first 5 days. The average temperature for the first 5 days of March was 40 degrees. Temperatures for the last 4 days of the month were 54 degrees, 43 degrees, 45 degrees, and 59 degrees.

What was the temperature of the final day of the month?





PROBLEM SOLVING

**Dorinda for Hire**

Dorinda the Clown charges the following rates for parties.

- ★ \$15 basic fee
- ★ \$2.50 extra for each special juggling trick
- ★ \$3.25 extra for each special unicycle trick
- ★ \$2.00 extra for each trick done with a dog balancing on her head.

How much would Dorinda charge for 3 juggling tricks, 4 unicycle tricks, and 2 of those tricks done with a dog balancing on her head?



MEASUREMENT

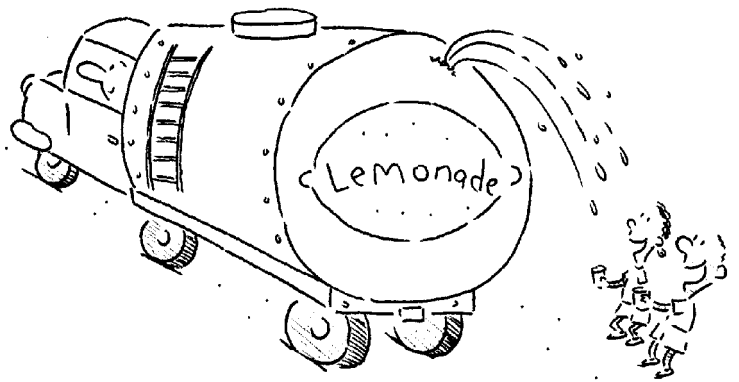
**Mel and Marti's Thirsty Party**

Mel and Marti had a picnic party  
 On March the twenty-first.  
 They had a fine lunch but forgot  
 the fruit punch  
 And soon they were dying of thirst.  
 But they were in luck when  
 a lemonade truck  
 Drove by and had a freak spill.  
 They held out cups as lemonade  
 shot up  
 And soon they drank their fill.

Forty-two gallons of lemonade spilled on the road.

**How many cups of lemonade spilled?**

*(HINT: There are 16 cups in a gallon.)*



**MARCH**

1.  $2 \frac{2}{5}$  inches
2. 12,700 miles
3. 9 hours, 24 minutes
4. Shay's kite is 200 feet off the ground; Muffy's is 175 feet; Doug's is 125 feet; and Carlos's kite is 100 feet.
5. 6 orders: Abra-Bennie-Carla-Dean; Abra-Carla-Bennie-Dean; Bennie-Abra-Carla-Dean; Bennie-Carla-Abra-Dean; Carla-Abra-Bennie-Dean; and Carla-Bennie-Abra-Dean
6.  $7 \frac{1}{4}$  ft
7.  $51 \div 3 = 13 \frac{1}{2} + 3 \frac{1}{2}$
8. 80 miles
9. No; they were at 10,565 feet, which is above the tree line.
10. 6 pounds
11. Rona saves \$1.50 per hour; for 5 hours, Rona should buy the 4-hour pass and one 1-hour pass for a total of \$32.50.
12. 108 inches of snow fell over the 5 months. January and February got more snow than March, and November and December got less snow. February and March got 54 inches, which is half of the year's total snowfall.
13. Answers will vary. A sample answer may be: Go north 400 yards. Go east 200 yards. Go south 600 yards. Go east 600 yards. Go north 300 yards. Go west 200 yards. Go north 300 yards. Go east 300 yards.
14. Toad is slower at 24 feet per hour. Turtle runs 25 feet per hour.
15. Triangle C is impossible because the 2 short sides don't meet. To fix the triangle, make one or both of the short sides longer, e.g., 3 inches by 5 inches by 7 inches.
16. 6 different arrangements: PIG, PGI, GIP, GPI, IPG, IGP. The word is PIG.
17. March 9 and March 10
18. 49 degrees
19. \$39.50
20. 672 cups