

Weather Extremes

All Operations
with Decimals

Heather enjoys studying weather. She was surprised to learn how much the weather varies around the world. Use the following facts to solve the problems.



1 Arica, Chile, is one of the driest places on Earth, averaging 0.03 inch of rainfall a year. Buenaventura, Colombia, is one of the wettest. It averages 8,849 times as much rain a year as Arica. How much rain does Buenaventura receive in an average year?

On July 4, 1956, it rained 1.23 inches in Unionville, Maryland, in one minute. How many times more is this than the average annual rainfall for Arica?

2 Quillayute, Washington, is one of the wettest cities in the United States, averaging 105.18 inches of rainfall a year. Yuma, Arizona, is one of the driest cities in the U.S., averaging 3.17 inches of rainfall yearly. How much more rainfall does Quillayute receive than Yuma in an average year?

How many feet of rainfall does Quillayute receive on average each year?

Round the amount of rainfall Yuma receives in inches to the nearest inch.

Write a decimal showing what part of a foot this amount represents.

3 One of the largest 24-hour snowfalls in the U.S. occurred on April 14–15, 1921, in Silver Lake, Colorado, when it snowed 75.8 inches. Assuming the storm lasted a full day, what was the rate of snowfall per hour? (Round your answer to the nearest hundredth.)

4 Christy's science project required her to record the daily high temperature in her town during the second week of February. She was then to calculate the average high temperature for these days. These were the high temperatures (in Fahrenheit):

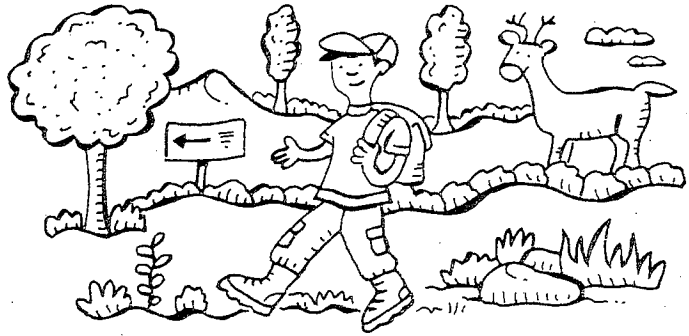
Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.
40.35°	42.5°	41°	44.8°	36.25°	37.6°	39.35°

Christy forgot to record the temperatures for Thursday, Friday, and Saturday, and she averaged the high temperatures of only the first four days of the week. She told Heather that her average was accurate, even though she did not include all of the data. Heather disagreed. Who was right? Explain your answer on the back of this page.

Camp Challenge

All Operations
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Ricky attended Camp Challenge this past summer, where his understanding of decimals proved to be very useful. Solve the following problems.



1 Each day the campers swam in Lake Challenge. The temperature of the lake's water was 65.35°F . Some campers found this to be chilly, because a person's normal body temperature is 98.6°F . How much colder was the lake's temperature than a normal body temperature?

2 Last year, Ricky's town sponsored a bicycle marathon with the proceeds going to charity. The length of the course was 7.8 kilometers. The bicycle marathon at Camp Challenge was 2.25 times as long. How long was the course for the bicycle marathon at the camp?

3 Ricky and several other campers participated in a 10.85-kilometer hike. They completed the hike in 3.5 hours. How many kilometers did they average per hour?

4 The first time Ricky climbed the rock wall, he managed to reach a height of 15.75 feet. The top of the wall was 21 feet. How much farther did Ricky need to climb to reach the top?

On his second attempt, he climbed 18.5 feet, but on his third try he slipped at 13.3 feet. What was the average height of his three climbs?

How much more was his highest climb than his average?

5 The obstacle course at camp was a true challenge. A camper had to climb a barricade, crawl through a tunnel, swing across a creek on a rope, jump over a low hedge, and sprint 100 yards to the finish. To prepare for the course, Ricky practiced each obstacle separately. (He did not run the complete course during practice.) His best time for each obstacle follows:

- barricade: 3.5 seconds
- tunnel: 5.85 seconds
- rope swing: 4.6 seconds
- hedge jump: 2.08 seconds
- sprint: 13.47 seconds

Based on these times, he is confident that he can finish the obstacle course in less than 30 seconds. Do you think Ricky's reasoning is sound? Explain your answer on the back of this page.

Why was Cleopatra so negative?

DIRECTIONS: Solve each problem and find your answer in the decoder. Each time your answer occurs in the decoder, write the letter of the problem above it.



1. $9.32 \div .8 = \underline{\hspace{2cm}}$ (T)
2. $64.32 \times 100 = \underline{\hspace{2cm}}$ (F)
3. $8.91 \times 3.4 = \underline{\hspace{2cm}}$ (I)
4. $7.48 \div .08 = \underline{\hspace{2cm}}$ (H)
5. $54.3 \div 1,000 = \underline{\hspace{2cm}}$ (A)
6. $7.96 \div .002 = \underline{\hspace{2cm}}$ (E)
7. $44.32 \times .61 = \underline{\hspace{2cm}}$ (U)
8. $7 - .03 = \underline{\hspace{2cm}}$ (L)
9. $.934 \times 10 = \underline{\hspace{2cm}}$ (N)
10. $.749 + 7 + .34 = \underline{\hspace{2cm}}$ (Q)

11. $(9.4 + .6) \times (3.2 - 1) = \underline{\hspace{2cm}}$ (S)
12. $78.84 \times 1,000 = \underline{\hspace{2cm}}$ (D)
13. $(6.4 + 3.2) - (7.8 - 6.34) = \underline{\hspace{2cm}}$ (W)
14. $30.06 - 6.06 = \underline{\hspace{2cm}}$ (O)

22	93.5	3,980	8.14	.0543	22	11.65	93.5	3,980
		8.089	27.0352	3,980	3,980	9.34		
24	6,432	78,840	3,980	9.34	30.294	.0543	6.97	