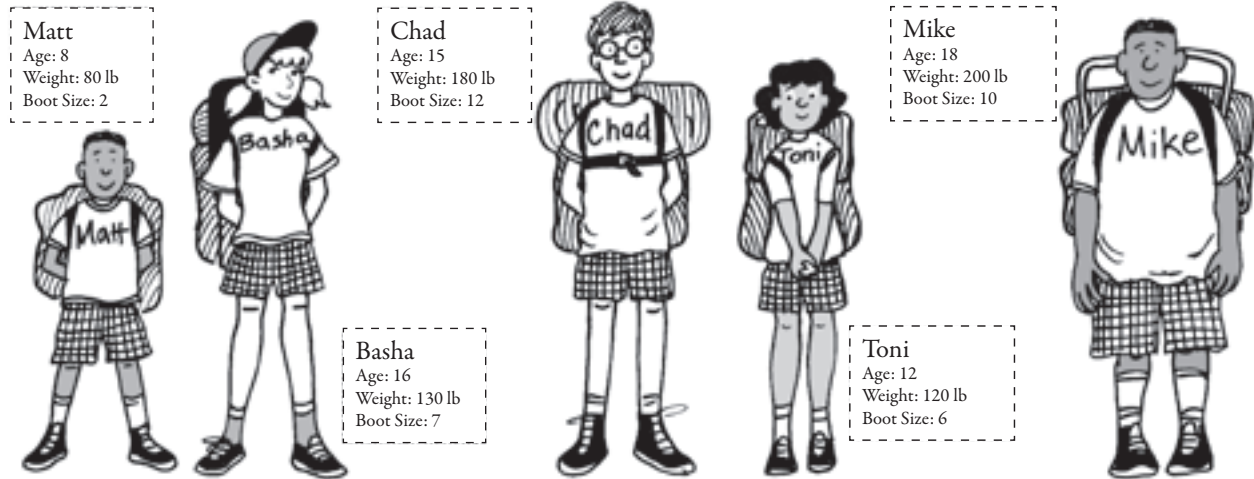


Who's Related?

Some of the hikers are related to each other. Find out about some of these relationships while you explore relationships between the numbers that describe their sizes and weights. The weights of each hiker include the weight of the person and the full pack.



Solve the problem to find who is related to whom.

1. The square of Basha's age is 192 greater than the square of her cousin's age. Who is Basha's cousin?
2. The square of Mike's weight is 33,600 greater than the square of his brother's weight. Who is Mike's brother?
3. When Chad's sister's boot size is raised to the fourth power, the result is 432 less than Chad's boot size raised to the third power. Who is Chad's sister?

Write the expressions with exponents.

4. 6 multiplied by itself 9 times
5. the square of the sum of 3 and 15
6. Write 625 as an exponent with a base of 5.
7. Write -243 with a base of -3.
8. In 2013, the population of France was around 64^6 people. Write this population without using an exponent.

Evaluate these expressions.

9. $(\frac{2}{4})^4 =$
10. $(0.25)^3 =$
11. $-100^5 =$
12. $(\frac{3}{5})^1 =$
13. $(\frac{1}{3})^3 + 3^3 =$
14. $(\frac{4}{7})^0 =$