

NAME: _____

Expressions and Equations

Set 1: Problem Solving with Exponents and Scientific Notation

Station 1

At this station, you will work with other students to solve this real-world problem.

An astronomer is studying four stars. Star B is 5 times farther from Earth than Star A . Star C is 1,000 times farther from Earth than Star B . Star D is 100 times farther from Earth than Star C . The astronomer finds that Star D is 3.4×10^{19} miles from Earth. How far is Star A from Earth?

Work with other students to discuss the problem. Brainstorm strategies you might use to solve the problem. Write the strategies below.

Solve the problem. When everyone agrees on the answer, write it below.

Explain the steps you used to solve the problem.

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Station 2

At this station, you will work with other students to solve this real-world problem.

A scientist has a test tube that contains 10 bacteria at noon. The bacteria double every hour, so after one hour, the test tube contains 20 bacteria, after two hours, the test tube contains 40 bacteria, and so on. How many bacteria will be in the test tube at midnight?

Work with other students to discuss the problem. Brainstorm strategies you might use to solve the problem. Write the strategies below.

Solve the problem. When everyone agrees on the answer, write it below.

Explain the steps you used to solve the problem.

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Station 3

At this station, you will work with other students to solve this real-world problem.

Four cities lie on a straight line. From west to east, the cities are Ashton, Barryville, Cortez, and Donner. The distance between Ashton and Donner is 3.2×10^3 km. The distance between Ashton and Barryville is 1.5×10^2 km, and the distance between Cortez and Donner is 2.1×10^3 km. What is the distance between Barryville and Cortez?

Work with other students to discuss the problem. Brainstorm strategies you might use to solve the problem. Write the strategies below.

Solve the problem. When everyone agrees on the answer, write it below.

Explain the steps you used to solve the problem.
