3-7 Problem Solving

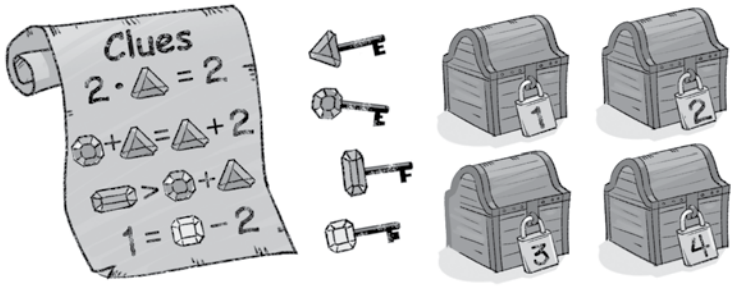
Digital Resources

CCSS: 6.EE.B.7: Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers. Also, **6.EE.B.5.**

Launch

MP1, MP2

Use the clues to find the value of each gemstone. Match the gemstone values to the lock numbers to open the treasure chest.



Reflect How would the problem change if the clues had letters instead of shapes?

Got It?

PART 1 Got It

Draw a model and write an equation to represent the problem.

Students working the concession stand at a school play sold a total of 64 juice boxes and energy bars during intermission. They sold 21 energy bars. How many juice boxes j did they sell?

PART 2 Got It

Draw a model and write an equation to represent the problem.

One hiking trail is 9 km long. A longer trail is c km long. Together the trails are 20 km long. How long is the longer trail?

PART 3 Got It

A truck driving on an interstate highway can weigh at most 80,000 pounds. When empty, a dump truck weighs 32,000 pounds. How much can a load in the truck weigh, *w*, for the truck to be able to travel on the interstate?

Write an inequality to model the situation. Then solve the inequality to find the weight of the load.

Close and Check

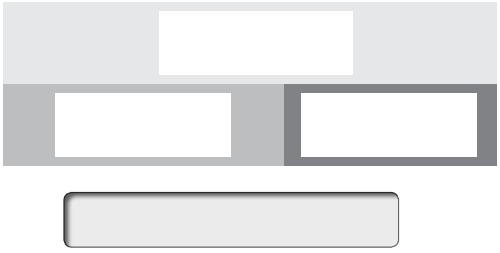
Focus Question

MP2, MP4

What can equations and inequalities show better than words can?

Do you know HOW?

1. A food bank needs donations of 1,275 cans of food each month. This month, 729 more cans of food are needed. How many cans of food have already been donated? Complete the model and write an equation to represent the problem.



2. A dragonfly can fly up to 7 meters per second. It travels 56 meters to catch a mosquito. What is the time t it takes the dragonfly to catch it? Write and solve an inequality to model the situation.

Do you UNDERSTAND?

3. **Writing** What clues can you use to determine whether a problem represents an equality or an inequality?

4. **Reasoning** The inequality $x > 8$ is displayed on chart paper. Your teacher asks you to list all of the solutions to this inequality. Can you list all of the solutions? Explain why or why not.