

Algebra 1

Name: _____

Modeling Real-Life Situations with Equations

Period: _____ #: _____

Write an equation to model each situation. Define your variable using a “Let” statement, write an equation, then solve. Be sure to answer the question being asked.

1. In 1999, 189 physical therapists ran the NYC Marathon. This was 1048 fewer than the number of engineers who ran. How many engineers ran in the marathon?
2. During the first half of a basketball game, a team scored 38 points. They made only field goals, which are 2 points each. How many field goals did they score?

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3. Jessica has \$50.00 she wants to spend on CDs, which are on sale for \$13.50 each. How many CDs can she afford to buy?

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4. A stack of 12 bricks is 27 inches high. What is the height of each brick?

5. The sum of Jan’s and Sara’s age is 33 years. If Sara is 15 years old, how old is Jan?

6. Suppose you want to buy one pair of pants and several pairs of socks. The pants cost \$25.00 and the socks are \$5.00 per pair. How many pairs of socks can you buy if you have \$50.00 to spend?

7. A gardener is planning a rectangular garden area in a community garden. His garden will next to an existing 12-ft fence. The gardener has a total of 44 ft of fencing to build the other three sides of his garden. How long will the sides of the garden be if the width is 12 ft?
8. You are fencing a rectangle puppy kennel with 25 ft of fence. The side of the kennel against your house does not need a fence. This side is 9 ft. long. Find the dimensions of the kennel.

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9. John needs to rent a moving truck. Suppose company A charges a rate of \$40 per day and Company B charges a rate of \$60 plus \$20 per day. For what number of days is the cost the same?

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10. A hairdresser is considering ordering a certain shampoo. Company A charges \$4 per bottle plus a \$10 handling fee per order. Company B charges \$3 per bottle plus a \$25 handling fee. How many bottles must the hairdresser buy to justify using Company B?