2-5 Solve It!

Think about how each step is related to the steps before it.
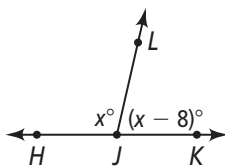
Getting Ready!

Follow the steps of the brainteaser using your age. Then try it using a family member's age. What do you notice? Explain how the brainteaser works.

- Write down your age.
- Multiply it by 10.
- Add 8 to the product.
- Double that answer and then subtract 16.
- Finally, divide the result by 2.

2-5 Lesson Quiz

1. What is the value of x?

2. Do you UNDERSTAND? What is the name of the property of equality or congruence that justifies going from the first statement to the second statement?

a. $6a = 30$

$a = 5$

b. $\angle ABC \cong \angle LMN$

$\angle LMN \cong \angle ABC$

3. Write a two-column proof.

Given: $\frac{2}{3}(x - 6) = 8$

Prove: $x = 18$

Answers

Solve It!

The left most digit(s) of the result is/are the one(s) you started with; the result is 10 times the starting age. Adding 8 and then doubling the sum is undone by subtracting 16 and then dividing by 2. So you end up with the product of the age and 10.

Lesson Quiz

1. $x = 94$

2. a. Division Property of Equality

b. Symmetric Property of Congruence

3. 1. $\frac{2}{3}(x - 6) = 8$, given

2. $2(x - 6) = 24$, Multiplication Property of Equality

3. $2x - 12 = 24$, Distributive Property

4. $2x = 36$, Addition Property of Equality

5. $x = 18$, Division Property of Equality