Nickname: _____No.____ M3/____ August 7, 2026

Worksheet 4.4 SOLVING QUADRATIC EQUATIONS WORD PROBLEMS

Directions:Show your complete solutions and all necessary steps whenever possible.

(Send your solutions to my personal line chat)

1. There is a two-digit number such that the digit in the ones place is equal to the square of the digit in the tens place. If the digits are interchanged, then its value increases by 54. What is the number? a. 24 b. 39 c. 11 d. 46

2. If the lengths of the three sides of a right triangle are 6-x units, 13 - x units, and 14 - x units, respectively. What is the area of the right triangle?

a. 12 square units b. 24 square units c. 30 square units d. 60 square units

3. A rectangle has a width $x + 2$cm and the length $4x + 1$cm. If the area of the rectangle is 65cm^2, what is the perimeter of the rectangle?

a. 18 cm b. 32 cm c. 36 cm d. 42 cm

4. The product of the present age of Rose and her age 14 years ago is 735. In the next 15 years, how old will she be?

a. 35 years old b. 42 years old c. 50 years old d. 56 years old

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5. The length of a wire is 100 centimeters. It is cut into two pieces and the first wire is shorter than the second wire. Each piece of wire is formed into a square. If the sum of the area of the two squares is 325 cm^2, what are the lengths of the sides of the two squares?

a. 5 cm and 20 cm b. 10 cm and 15 cm

c. 8 cm and 17 cm d. 12 cm and 13 cm

6. Ian's father is currently x^2 years old. In 4x years time, the father will be exactly 45 years old. Find the age of Ian's father when Ian was born if Ian is currently x years old.

a. 15 years old b. 20 years old c. 25 years old d. 30 years old

7. The difference between two positive numbers is 7, and the square of their sum is 289. What are the two numbers?

a. 12 and 5 b. 15 and 8 c. 10 and 3 d. 14 and 7

8. The difference between two numbers is 3. If the square of the smaller number is equal to four times of the larger number, find the two numbers.

a. 4 and 1 b. 6 and 3 c. 2 and -1 d. 6 and 9

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