

8.9 Quadratic Age and Area Problems

Date _____ Period _____

----- **Examples** -----

1) Asher is 13 times Keith's age. The sum of Asher's age and the square of Keith's age is 48. Find Asher and Keith's ages.

2) The width of a rectangle is 5 inches less than a number. The length is 5 times the number. If the area is 330 sq in, what is the length?

----- **Classwork** -----

3) Naomi is 5 years older than Jacob. The product of their ages is 84. How old is Naomi?

- 4) Tamara has two sisters. One of the sisters is 7 years older than Tamara. The other sister is 3 years younger than Tamara. The product of Tamara's sisters' ages is 24. How old is Tamara?
- 5) The Area of a rectangle is 40. If the length is 6 more than the width, find the dimensions of the rectangle.
- 6) The Area of a rectangle is 35. If the length is 2 more than the width, find the dimensions of the rectangle.
- 7) The ratio of length to width in a rectangle is 3:2. Find the length and width of the rectangle when the area is 150 sq in.

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----- **Examples** -----

- 1) Asher is 13 times Keith's age. The sum of Asher's age and the square of Keith's age is 48. Find Asher and Keith's ages.

Keith is 3 and Asher is 39

- 2) The width of a rectangle is 5 inches less than a number. The length is 5 times the number. If the area is 330 sq in, what is the length?

55 inches

----- **Classwork** -----

- 3) Naomi is 5 years older than Jacob. The product of their ages is 84. How old is Naomi?

12

4) Tamara has two sisters. One of the sisters is 7 years older than Tamara. The other sister is 3 years younger than Tamara. The product of Tamara's sisters' ages is 24. How old is Tamara?

5

5) The Area of a rectangle is 40. If the length is 6 more than the width, find the dimensions of the rectangle.

10 by 4

6) The Area of a rectangle is 35. If the length is 2 more than the width, find the dimensions of the rectangle.

7 by 5

7) The ratio of length to width in a rectangle is 3:2. Find the length and width of the rectangle when the area is 150 sq in.

10 and 15