

Quadratic Word Problems

- 1) Given the sum of two numbers equal 16, and the sum of their squares equal 160; find the numbers.
- 2) Given the sum of two numbers equal 19, and the sum of their squares equal 185; find the numbers.
- 3) Given the difference of two numbers equal 4, and the sum of their squares equal 136; find the numbers.
- 4) Given the difference of two numbers equal 6, and the sum of their squares equal 218; find the numbers.
- 5) Given the sum of two numbers equal 17, and the difference of their squares equal 136; find the numbers.
- 6) Given the difference of two numbers equal 6, and the difference of their squares equal 84; find the numbers.
- 7) Given the sum of two numbers, more the difference of their squares equal 40; find the numbers.
- 8) Given the sum of two numbers, more the difference of their squares equal 98; find the numbers.
- 9) Given the sum of two numbers, more the sum of their squares equal 68; find the numbers.
- 10) Given the sum of two numbers, more the sum of their squares equal 278; find the numbers.
- 11) Given the sum of two numbers equal 20, and the sum of the squares of one-half of each of them equal 52; find the numbers.
- 12) Given the sum of two numbers equal 40, and the sum of the squares of one-fifth of each of them equal 34; find the numbers.



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solutions

- 1) $x + y = 16$; $x^2 + y^2 = 160$; ans: 4, 12
- 2) $x + y = 19$; $x^2 + y^2 = 185$; ans: 8, 11
- 3) $x - y = 16$; $x^2 + y^2 = 136$; ans: 6, 10
- 4) $x - y = 6$; $x^2 + y^2 = 218$; ans: 7, 13
- 5) $x + y = 17$; $x^2 - y^2 = 136$; ans: 4.5, 12.5
- 6) 4, 10
- 7) 2, 6
- 8) $x + y = 14$; $x^2 - y^2 = 84$ ($98 - 14 = 84$); 4, 10
- 9) 2, 16
- 10) $x + y = 20$; $x^2 + y^2 = 208$; 8, 12
- 11) $x + y = 4$; $x^2 + y^2 = 850$; 15, 25

From the book:

A New Key to the Exact Sciences:
A New and Practical Theory

By Francis Tillett
1824

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