

Elementary Algebra Skill

Setting Up and Solving Number Problems Leading to Quadratic Equations

Set up and solve.

1. A number added to its square gives 0. Find the number(s).
2. The square of a number less the number equals 0. Find the number(s).
3. Six times a number is the same as the square of a number. Find the number(s).
4. Nine times a number equals negative three times the square of the number. Find the number(s).
5. The square of a number added to twice the number yields -1 . Find the number(s).
6. 12 is the difference of the square of a number and the number. Find the number(s).
7. Four times a number is the same as 3 plus the square of the number. Find the number(s).
8. 6 less the square of a number is the same as five times the number. Find the number(s).
9. The sum of twice a number and 15 is equal to the square of the number. Find the number(s).
10. A number squared gives eight times the number less 16. Find the number(s).
11. The sum of 5 times a number and 3 is equal to twice the square of the number. Find the number(s).
12. The sum of three times the square of a number and ten times the number is 8. Find the number(s).
13. Twelve times a number is equal to 9 more than four times the square of the number. Find the number(s).
14. Six times the sum of 1 and the square of a number yields thirteen times the number. Find the number(s).
15. Find three consecutive integers such that the sum of the squares of the first two is equal to the square of the third.
16. The product of two consecutive even integers is 168. Find the integers.
17. Find two consecutive odd integers whose product is 255.
18. The product of two consecutive integers increased by 4 gives 60. Find the integers.
19. Find three consecutive even integers such that the product of the first two is equal to the product of the last two less 32.
20. Find three consecutive odd integers such that the product of the first and the second is 10 less than the product of the first and the third.

Answers to Setting Up and Solving Number Problems Leading to Quadratic Equations

- 1) 0 or -1
- 2) 0 or 1
- 3) 0 or 6
- 4) 0 or -3
- 5) -1
- 6) 4 or -3
- 7) 1 or 3
- 8) -6 or 1
- 9) -3 or 5
- 10) 4
- 11) 3 or $-1/2$
- 12) $2/3$ or -4
- 13) $3/2$
- 14) $3/2$ or $2/3$
- 15) 3,4,5 or -1,0,1
- 16) -14,-12 or 12,14
- 17) 15,17 or -17,-15
- 18) 7,8 or -8,-7
- 19) 6, 8, 10
- 20) 5, 7, 9