

# The Weekly Rigor

No. 329

“A mathematician is a machine for turning coffee into theorems.”

October 10, 2020

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## 20 Word Problems Involving Simple Equations (Part 5)

18. The area of a circular region is numerically equal to four times the circumference of the circle. Find the length of a diameter of the circle.

19. One leg of a right triangle is 2 inches more than twice as long as the other leg. The hypotenuse is 1 inch longer than the longer of the two legs. Find the length of the three sides of the right triangle.

20. One leg of a right triangle is 1 inches less than twice as long as the other leg. The hypotenuse is 2 inches longer than the longer of the two legs. Find the length of the three sides of the right triangle.

### ANSWERS

1. -125	2. 56
3. 8 and 9 or - 9 and - 8	4. 7 and 8 or - 8 and - 7
5. 0 or 4	6. 1 or 4
7. 2 or 5	8. -7, -6, 6, 7
9. -6, -5, 5, 6	10. 20
11. 4	12. 2
13. 10 inches, 6 inches	14. 9 centimeters, 5 centimeters.
15. 2 by 2 inches, 6 by 6 inches	16. 3 by 3 centimeters, 9 by 9 centimeters
17. 6	18. 16
19. 5, 12, and 13 inches	20. 8, 15, and 17 inches

“Only he who never plays, never loses.”