Why Did the Population Expert Feel Like He Was Going Crazy?

Determine whether or not the given numbers are possible measures for the sides of a right triangle. Circle the letters next to each correct answer. Find the lower case letter in a box at the bottom of the page and write the upper case letter below it.

$a = 6$ $b = 8$ $c = 10$ $a^2 =$____ $b^2 =$____ $c^2 =$____ **1** Right triangle? yes **i-O** no **f-K**	$a = 10$ $b = 12$ $c = 14$ $a^2 =$____ $b^2 =$____ $c^2 =$____ **2** Right triangle? yes **m-B** no **t-S**	$a = 5$ $b = 12$ $c = 13$ $a^2 =$____ $b^2 =$____ $c^2 =$____ **3** Right triangle? yes **e-A** no **q-R**
$a = 11$ $b = 11$ $c = 15$ $a^2 =$____ $b^2 =$____ $c^2 =$____ **4** Right triangle? yes **v-D** no **r-E**	$a = 7$ $b = 24$ $c = 25$ $a^2 =$____ $b^2 =$____ $c^2 =$____ **5** Right triangle? yes **k-T** no **h-P**	$a = 4$ $b = 9$ $c = \sqrt{97}$ $a^2 =$____ $b^2 =$____ $c^2 =$____ **6** Right triangle? yes **a-H** no **p-V**
$a = 14$ $b = \sqrt{204}$ $c = 20$ $a^2 =$____ $b^2 =$____ $c^2 =$____ **7** Right triangle? yes **o-S** no **b-U**	$a = \sqrt{160}$ $b = 13$ $c = 18$ $a^2 =$____ $b^2 =$____ $c^2 =$____ **8** Right triangle? yes **c-F** no **f-D**	$a = 2.7$ $b = 3.6$ $c = 4.5$ $a^2 =$____ $b^2 =$____ $c^2 =$____ **9** Right triangle? yes **v-S** no **n-G**
$a = 3.2$ $b = 5.8$ $c = 6.7$ $a^2 =$____ $b^2 =$____ $c^2 =$____ **10** Right triangle? yes **u-O** no **m-H**	$a = 16$ $b = \sqrt{300}$ $c = \sqrt{556}$ $a^2 =$____ $b^2 =$____ $c^2 =$____ **11** Right triangle? yes **b-E** no **d-M**	$a = 8$ $b = 15$ $c = 17$ $a^2 =$____ $b^2 =$____ $c^2 =$____ **12** Right triangle? yes **q-C** no **j-R**
$a = 30$ $b = 40$ $c = 5$ $a^2 =$____ $b^2 =$____ $c^2 =$____ **13** Right triangle? yes **h-L** no **s-A**	$a = 40$ $b = 50$ $c = 60$ $a^2 =$____ $b^2 =$____ $c^2 =$____ **14** Right triangle? yes **l-S** no **n-I**	$a = 10$ $b = 24$ $c = 26$ $a^2 =$____ $b^2 =$____ $c^2 =$____ **15** Right triangle? yes **u-U** no **g-E**
$a = 0.9$ $b = 4.0$ $c = 4.1$ $a^2 =$____ $b^2 =$____ $c^2 =$____ **16** Right triangle? yes **d-H** no **c-R**	$a = \sqrt{2}$ $b = \sqrt{2}$ $c = 2$ $a^2 =$____ $b^2 =$____ $c^2 =$____ **17** Right triangle? yes **j-S** no **p-O**	$a = 1$ $b = 1$ $c = \sqrt{2}$ $a^2 =$____ $b^2 =$____ $c^2 =$____ **18** Right triangle? yes **s-N** no **l-T**

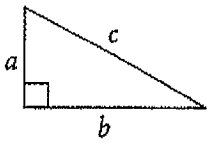
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v

Name _____ Class _____ Date _____

Practice 11-2

The Pythagorean Theorem

Use the triangle at the right. Find the length of the missing side to the nearest tenth.



1. $a = 12, b = 35, c =$ ▪
2. $a = 10, b =$ ▪$, c = 26$
3. $a = 11, b =$ ▪$, c = 61$
4. $a = 36, b = 15, c =$ ▪
5. $a = 8, b = 15, c =$ ▪
6. $a =$ ▪$, b = 24, c = 40$
7. $a = 18, b =$ ▪$, c = 35$
8. $a = 17, b =$ ▪$, c = 49$
9. $a = 42, b = 37, c =$ ▪
10. $a =$ ▪$, b = 80, c = 90$
11. $a = 8, b = 8, c =$ ▪
12. $a = 19, b =$ ▪$, c = 26$
13. $a =$ ▪$, b = 27, c = 33$
14. $a =$ ▪$, b = 13, c = 24$
15. $a = 9, b =$ ▪$, c = 13$
16. $a = 19, b = 45, c =$ ▪
17. $a =$ ▪$, b = 24, c = 39$
18. $a = 14, b = 14, c =$ ▪

Determine whether the given lengths are sides of a right triangle.

19. 20, 21, 29
20. 16, 30, 34
21. 24, 60, 66
22. 23, 18, 14
23. 10, 24, 28
24. 45, 28, 53
25. $\frac{4}{5}, \frac{3}{5}, 1$
26. $\frac{2}{3}, \frac{4}{3}, \frac{1}{3}$
27. 3.5, 4.4, 5.5
28. 10.5, 11.3, 13.8
29. 3.3, 6.5, 5.6
30. 24, 70, 74
31. 4.2, 7.0, 5.6
32. 5.2, 6.5, 3.9
33. 2.1, 3.5, 2.8
34. 4.8, 7.5, 5.4
35. 7.5, 4.3, 6.7
36. $\frac{1}{9}, \frac{1}{15}, \frac{1}{18}$
37. $\frac{1}{2}, \frac{6}{5}, \frac{13}{10}$
38. $\frac{1}{5}, \frac{1}{4}, \frac{1}{3}$

Find the missing length to the nearest tenth.

39. A ladder is 25 ft long. The ladder needs to reach to a window that is 24 ft above the ground. How far away from the building should the bottom of the ladder be placed?

40. Suppose you are making a sail in the shape of a right triangle for a sailboat. The length of the longest side of the sail is 65 ft. The sail is to be 63 ft high. What is the length of the third side of the sail?

41. Suppose you leave your house and travel 13 mi due west. Then you travel 3 mi due south. How far are you from your house?

42. A wire is run between the tips of two poles. One pole is 23 ft taller than the other pole. The poles are 37 ft apart. How long does the wire need to be to reach between the two poles?

43. A 20-ft-long wire is used to support a television antenna. The wire is connected to the antenna 15 ft above the ground. How far away from the base of the tower will the other end of the wire be located?