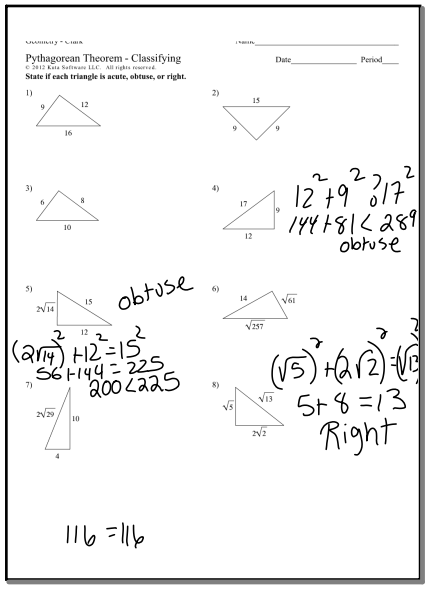


Pythagorean Theorem - Classifying

Date_____ Period____

State if each triangle is acute, obtuse, or right.

1) 9, 12, 16

2) 15, 9, 9

3) 6, 8, 10

4) 17, 9, 12 — $12^2+9^2 \stackrel{?}{\circ} 17^2$, $144+81<289$, obtuse

5) $2\sqrt{14}$, 15, 12 — obtuse, $(2\sqrt{14})^2+12^2=15^2$, $56+144=225$, $200<225$

6) 14, $\sqrt{61}$, $\sqrt{257}$

7) $2\sqrt{29}$, 10, 4

8) $\sqrt{5}$, $\sqrt{13}$, $2\sqrt{2}$ — $(\sqrt{5})^2+(2\sqrt{2})^2=(\sqrt{13})^2$, $5+8=13$, Right

$116=116$

How can we tell if a triangle is acute, obtuse or right?

Given 3 sides of a triangle

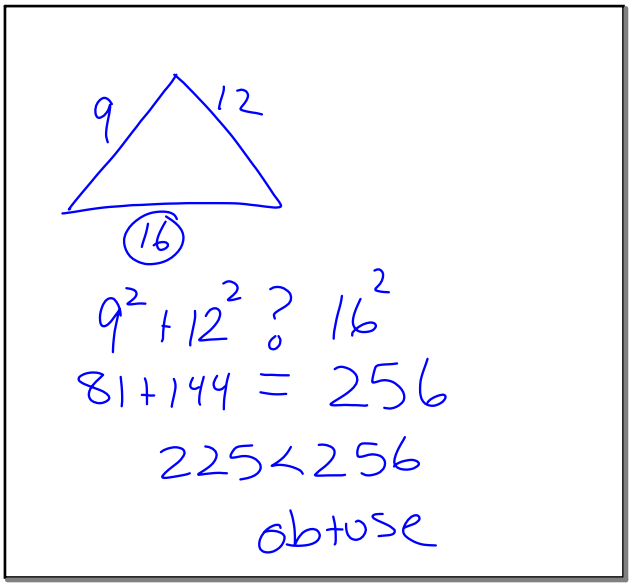
If

$a^2+b^2=c^2$ Right Triangle

$a^2+b^2>c^2$ Acute Triangle

$a^2+b^2<c^2$ Obtuse

Feb 11-11:56 AM



$9^2+12^2 \stackrel{?}{\circ} 16^2$

$81+144=256$

$225<256$

obtuse

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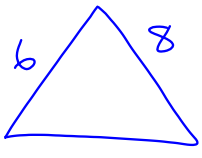

$6^2+8^2 \stackrel{?}{\circ} 10^2$ Right

$36+64=100$

$100=100$

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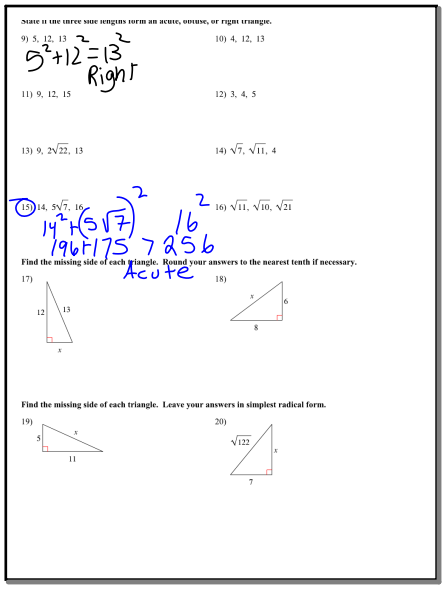

State if the three side lengths form an acute, obtuse, or right triangle.

9) 5, 12, 13 — $5^2+12=13^2$, Right

10) 4, 12, 13

11) 9, 12, 15

12) 3, 4, 5

13) 9, $2\sqrt{22}$, 13

14) $\sqrt{7}$, $\sqrt{11}$, 4

15) 14, $5\sqrt{7}$, 16 — $14^2+(5\sqrt{7})^2 \quad 16^2$, $196+175 > 256$, Acute

16) $\sqrt{11}$, $\sqrt{10}$, $\sqrt{21}$

Find the missing side of each triangle. Round your answers to the nearest tenth if necessary.

17) 12, 13, x

18) x, 6, 8

Find the missing side of each triangle. Leave your answers in simplest radical form.

19) 5, x, 11

20) $\sqrt{122}$, x, 7