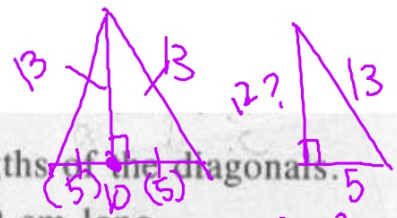
$1:\sqrt{3}:2$ $\frac{1}{6}=\frac{\sqrt{3}}{x}$

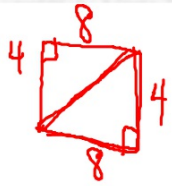
Page 304 #4-7 WARMUP



$9^2+5^2=13^2$

4. A rectangle has length 8 and width 4. Find the lengths of the diagonals.
5. Find the perimeter of a square that has diagonals 10 cm long.
6. The sides of an equilateral triangle are 12 cm long. Find the length of an altitude of the triangle.
7. How long is the altitude to the base of an isosceles triangle if the sides of the triangle are 13, 13, and 10?

$\frac{1}{x}\times\frac{\sqrt{2}}{10}$ $1:1:\sqrt{2}$ $\frac{\sqrt{2}x}{\sqrt{2}}=\frac{10}{\sqrt{2}}$ $x=\frac{10}{\sqrt{2}}$



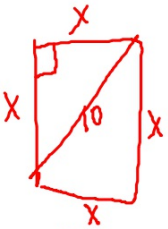
$a^2+b^2=c^2$

$8^2+4^2=c^2$

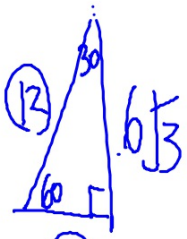
$64+16=c^2$

$\sqrt{80}=\sqrt{c^2}$

$4\sqrt{5}=c$



$\frac{10\sqrt{2}}{\sqrt{2}\sqrt{2}}=\frac{10\sqrt{2}}{2}=5\sqrt{2}$



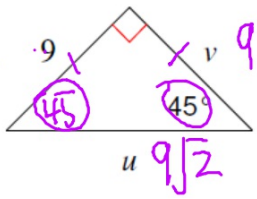
(6)

Find the missing side lengths. Leave your answers as radicals in simplest form.

1:1:√2

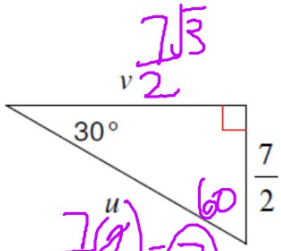
1 : √3 : 2
30 60 90

1)



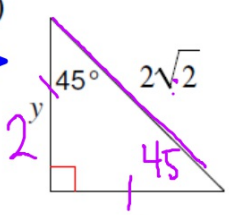
9
9√2

2)



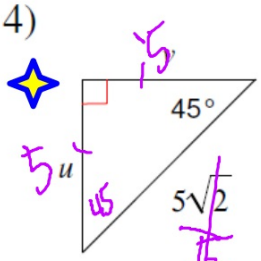
7√3
2
7/2(2) = 7

3)



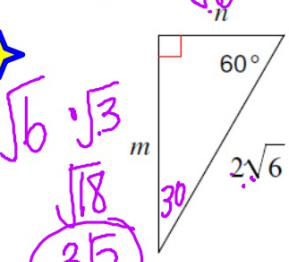
2
45
2√2/√2

4)

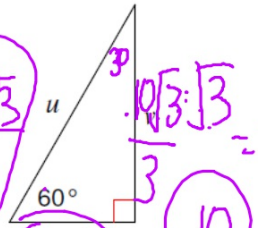


5√2/√2

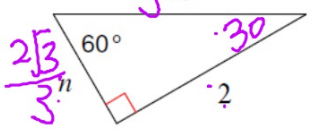
5)



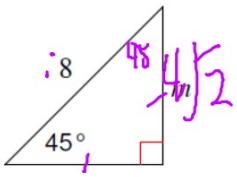
6)



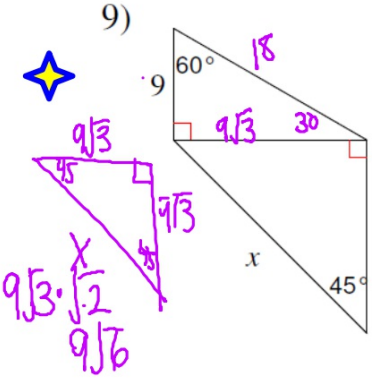
7)

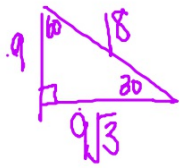


8)



9)

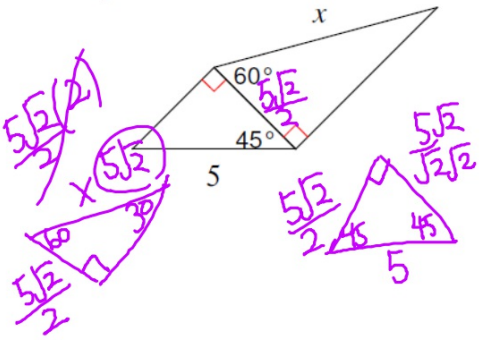




$1 : \sqrt{3} : 2$ (30, 60, 4)

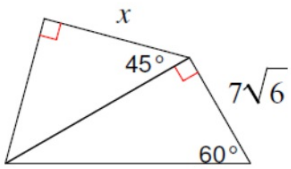
$1 : 1 : \sqrt{2}$ (45, 45, 4)

10)



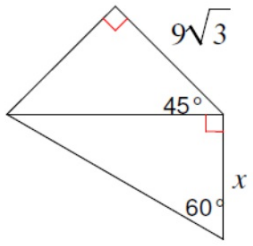
11)

21



12)

$9\sqrt{2}$



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

13) $8\sqrt{3}$, 8, 16

obtuse

$8 \cdot 8 \cdot \sqrt{3} \cdot \sqrt{3}$

$64 \cdot 3$

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

$> c^2$ acute

$< c^2$ obtuse

14) $\sqrt{65}$, 10, $\sqrt{167}$

obtuse

15) $\sqrt{6}$, 2, $\sqrt{9}$

3

acute

$\sqrt{6}^2 + 2^2 \quad \sqrt{9}^2$

$6 + 4 \quad 9$

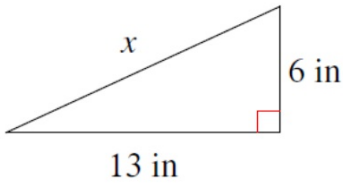
$10 >$ acute

16) $\sqrt{198}$, 8, $\sqrt{257}$

acute

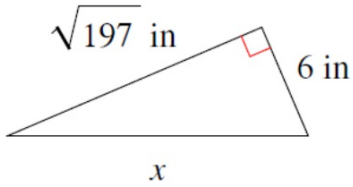
Find the missing side of each triangle. Leave your answers in simplest radical form.

17)



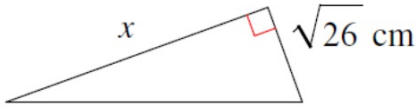
$\sqrt{205}$

18)



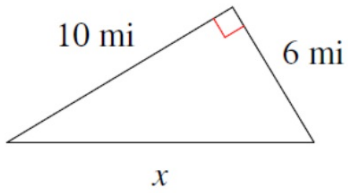
$\sqrt{233}$

19)



$\sqrt{199}$

20)



$2\sqrt{34}$

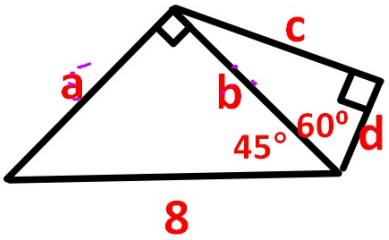
State if the three sides lengths form a right triangle.

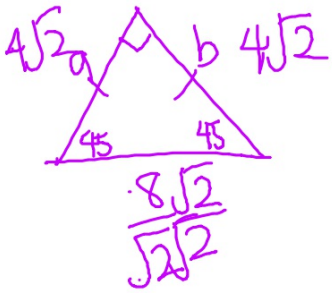
21) 12 km, 4 km, $\sqrt{163}$ km

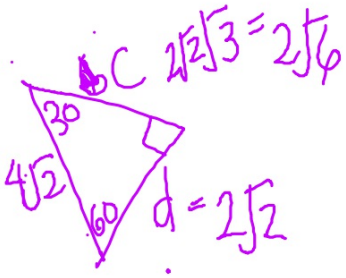
No

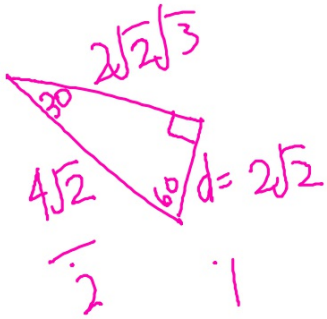
22) 3 mi, 2 mi, $\sqrt{13}$ mi

Yes







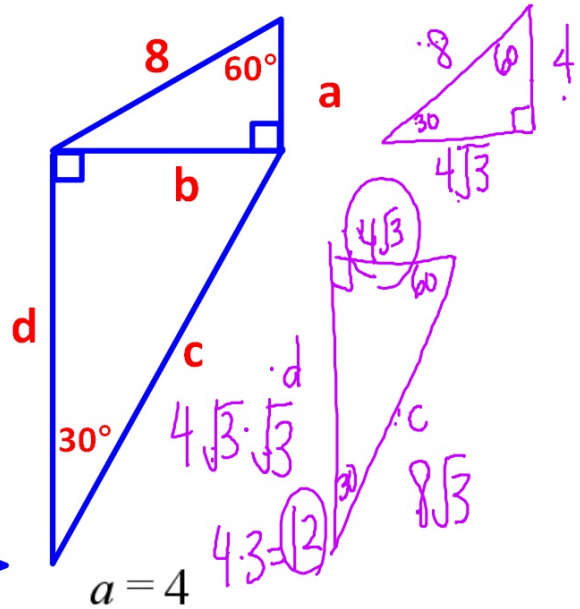


$$a = b = 4\sqrt{2}$$

$$c = 2\sqrt{6}$$

$$d = 2\sqrt{2}$$

Answer

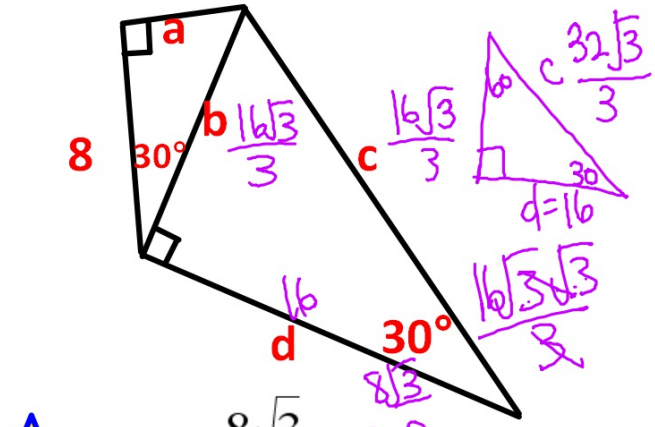


$a = 4$

$b = 4\sqrt{3}$

$c = 8\sqrt{3}$

$d = 12$

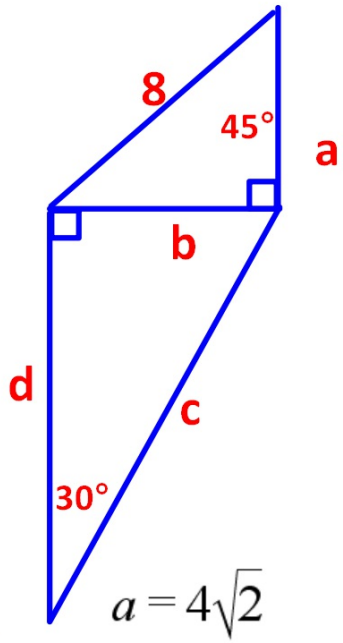


$$a = \frac{8\sqrt{3}}{3}$$

$$b = \frac{16\sqrt{3}}{3}$$

$$c = \frac{32\sqrt{3}}{3}$$

$$d = 16$$

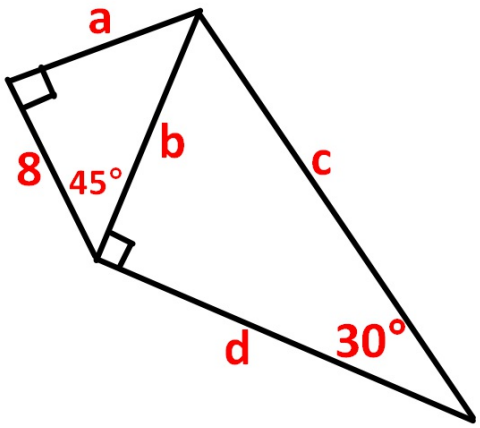


$a = 4\sqrt{2}$

$b = 4\sqrt{2}$

$c = 8\sqrt{2}$

$d = 4\sqrt{6}$

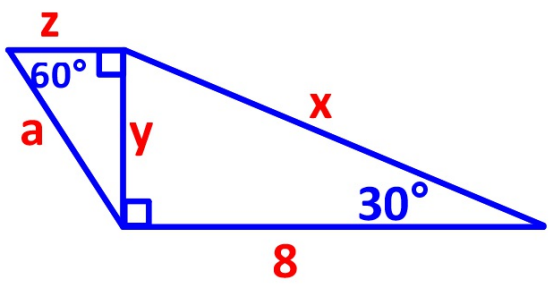


$a = 8$

$b = 8\sqrt{2}$

$c = 16\sqrt{2}$

$d = 8\sqrt{6}$



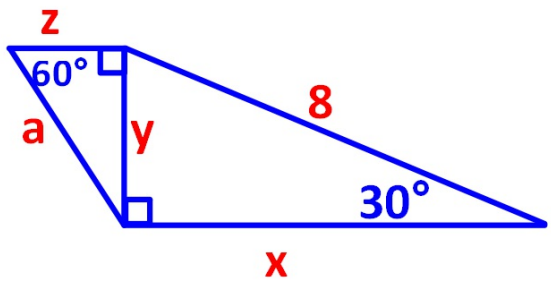
$$x = \frac{16\sqrt{3}}{3}$$

$$y = \frac{8\sqrt{3}}{3}$$

$$z = \frac{8}{3}$$

$$a = \frac{16}{3}$$

Answer



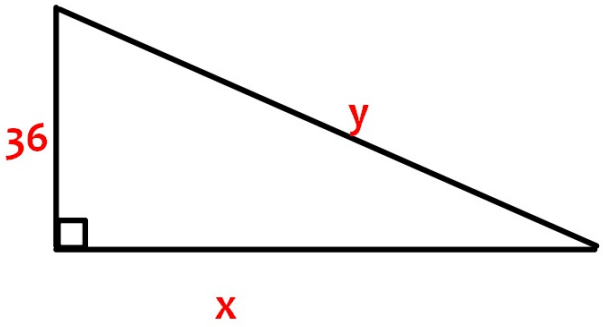
$$x = 4\sqrt{3}$$

$$y = 4$$

$$z = \frac{4\sqrt{3}}{3}$$

$$a = \frac{8\sqrt{3}}{3}$$

Answer



not enough information

HOMEWORK

Assignment #8.4c

- WS: Similarity in Right Triangles; The Pythagorean Theorem $\frac{a}{b}=\frac{b}{c}$
- WS: Practice 32

TUESDAY FEB 7th - QUIZ 8.1-8.4

TUESDAY FEB 14th - QUIZ CH 8

THURSDAY FEB 16th - TEST CH 8