



WARM UP GRADE 8
MONDAY, NOV. 26



The following lengths are the sides of a triangle, determine if it is a right triangle?

40cm , 24 cm, 32 cm

c a b

Checking

$$\begin{array}{l} c^2 \\ 40^2 \\ 1600 \end{array} \left. \vphantom{\begin{array}{l} c^2 \\ 40^2 \\ 1600 \end{array}} \right\} \begin{array}{l} a^2 + b^2 \\ 24^2 + 32^2 \\ 576 + 1024 \\ \text{add} \\ 1600 \end{array}$$

Same

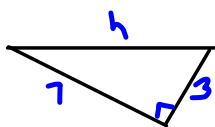
So it is a Right Δ

Page 34-35

#7(a,b), 8(a),9(a), 10

Page 34-357(a,b),8(a,b), 9(a), 10, 13(a,b)

7a)



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

$$c^2 = 7^2 + 3^2$$

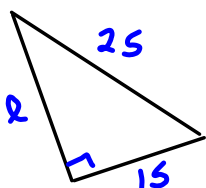
$$c^2 = 49 + 9$$

$$c^2 = 58$$

$$\sqrt{c^2} = \sqrt{58}$$

$$c = 7.6$$

b)



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

$$25^2 = a^2 + 15^2$$

$$625 = a^2 + 225$$

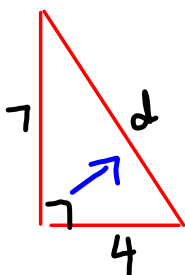
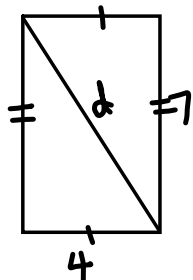
$$625 - 225 = a^2 + 225 - 225$$

$$400 = a^2$$

$$\sqrt{400} = \sqrt{a^2}$$

$$20 = a$$

8



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

$$c^2 = 7^2 + 4^2$$

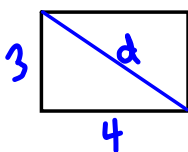
$$c^2 = 49 + 16$$

$$c^2 = 65$$

$$\sqrt{c^2} = \sqrt{65}$$

$$c = 8.1$$

9a)



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

$$c^2 = 3^2 + 4^2$$

$$c^2 = 9 + 16$$

$$c^2 = 25$$

$$\sqrt{c^2} = \sqrt{25}$$

$$c = 5$$

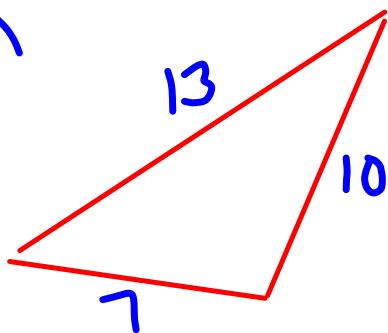
10.
If you know the side lengths of a right triangle the hypotenuse will be the largest number since it is always the longest side.

Homework Solutions Page 43 #4(a,b)

#6 (a,c,f)

#7(a,f)

#8

4.
a)

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

$$13^2$$

$$10^2 + 7^2$$

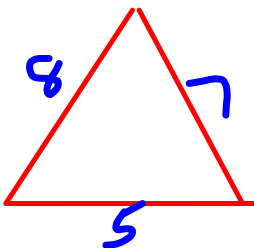
$$100 + 49$$

$$169$$

$$149$$

$169 \neq 149$, so not a right triangle.

b)



$$\text{Does } c^2 = a^2 + b^2$$

$$8^2$$

$$5^2 + 7^2$$

$$25 + 49$$

$$74$$

$64 \neq 74$, so not a right triangle.

Homework pg. 43 # 6-12 and Reflect

#4(a,b)

Homework Solutions

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

#6 (a,c,f)

#7(a,f)

☺ a) 16, 30, 34

$$34^2 = 1156$$

$$16^2 + 30^2 = 256 + 900 = 1156$$

#8 b) $12^2 = 144$

$$8^2 + 10^2 = 64 + 100 = 164$$

They are equal so it is a right triangle.

They are not equal so it is not a right triangle.

☺ c) $25^2 = 625$

$$20^2 + 15^2 = 400 + 225 = 625$$

d) $53^2 = 2809$

$$28^2 + 45^2 = 784 + 2025 = 2809$$

They are equal so it is a right triangle.

They are equal so it is a right triangle.

They are equal so it is a right triangle.

They are not equal so it is not a right triangle.

e) $17^2 = 289$

$$14^2 + 5^2 = 196 + 25 = 221$$

☺ f) $30^2 = 900$

$$9^2 + 20^2 = 81 + 400 = 481$$

They are not equal so it is not a right triangle.

They are not equal so it is not a right triangle.

g) $15^2 = 225$

$$9^2 + 9^2 = 81 + 81 = 162$$

h) $26^2 = 676$

$$10^2 + 24^2 = 100 + 576 = 676$$

They are not equal so it is not a right triangle.

They are equal so it is a right triangle.

Homework Solutions #4(a,b)

7. Does $c^2 = a^2 + b^2$

a) $16, 30, 34$
 $34^2 = 1156$
 $16^2 + 30^2 = 256 + 900 = 1156$

They are equal so it is a Pythagorean triple.

c) $39^2 = 1521$
 $15^2 + 36^2 = 225 + 1296 = 1521$

They are equal so it is a Pythagorean triple.

e) $35^2 = 1225$
 $38^2 + 9^2 = 900 + 81 = 981$

They are not equal so it is not Pythagorean triple.

b) $9^2 = 81$
 $6^2 + 8^2 = 36 + 64 = 100$

They are not equal so it is not Pythagorean triple.

d) $65^2 = 4225$
 $63^2 + 16^2 = 3969 + 256 = 4225$

They are equal so it is a Pythagorean triple.

They are equal so it is a Pythagorean triple.
 They are not equal so it is not Pythagorean triple.

f) $58^2 = 3364$
 $40^2 + 42^2 = 1600 + 1764 = 3364$

They are equal so it is a Pythagorean triple.

8. $15, 12, 9$
 Is $15^2 = 12^2 + 9^2$?
 $225 = 144 + 81 = 225$

They are equal, so the sides form a right angle.

9. $6, 7, \sqrt{13}$
 $7^2 = 6^2 + (\sqrt{13})^2$?
 $49 = 36 + 13 = 49$

$\sqrt{9} = 3$ $\sqrt{13}$ $\sqrt{16} = 4$

Yes it is a right triangle.
 It is not a pythagorean triple because one side is not a whole number

Class/Homework

$$(\sqrt{13})^2 = 13$$

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#9, #10, #12(a,c), #14

Page 48-49

#2, #3, #4a, #5a

Test

Unit 1: Square Roots & Pythagorean Theorem

Thursday
~~Monday~~, Nov. 29