WARM UP GRADE 8

WEDNESDAY, NOV. 27

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

40cm , 24 cm, 32 cm

c a b

$$c^2 \quad\Big\} \quad a^2 + b^2$$

$$(40cm)^2 \quad\Big\} \quad 24^2 + 32^2$$

$$576 + 1024$$

$1600cm^2$ $\longrightarrow$ 1600

Same

so Right △

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)

$$c^2 = a + b^2$$
$$c^2 = 7^2 + 3^2$$
$$c^2 = 49 + 9$$
$$c^2 = 58$$
$$\sqrt{c^2} = \sqrt{58}$$
$$c = 7.6$$

b)
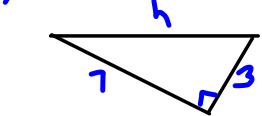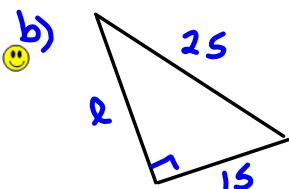
$$c^2 = a^2 + b^2$$
$$25^2 = a^2 + 15^2$$
$$625 = a^2 + 225$$
$$625 - 225 = a^2 + 225 - 225$$
$$400 = a^2$$
$$\sqrt{400} = \sqrt{a^2}$$
$$20 = a$$
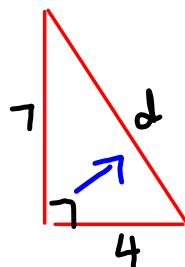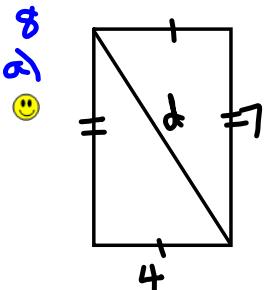
8 a)

$$c^2 = a^2 + b^2$$
$$c^2 = 7^2 + 4^2$$
$$c^2 = 49 + 16$$
$$c^2 = 65$$
$$\sqrt{c^2} = \sqrt{65}$$
$$c = 8.1$$

9a)
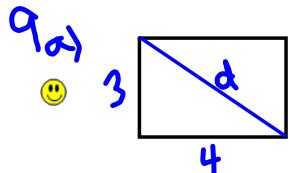
$$c^2 = a^2 + b^2$$
$$c^2 = 3^2 + 4^2$$
$$c^2 = 9 + 16$$
$$c^2 = 25$$
$$\sqrt{c^2} = \sqrt{25}$$
$$c = 5$$

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)

13

10

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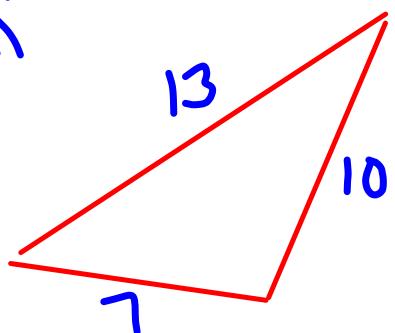
$$c^2 = a^2 + b^2$$

13^2　　$10^2 + 7^2$

　　　　$100 + 49$

$169 \longleftrightarrow 149$

　　Not the same

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

b)

8　　7

5
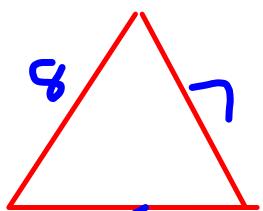
Does $c^2 = a^2 + b^2$

8^2　　　$5^2 + 7^2$

$64 \longleftrightarrow 25 + 49$

　　Not same　74

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

Homework pg. 43 # 6-12 and Reflect

#4(a,b)   Homework Solutions

#6 (a,c,f)

#7(a,f)

#8

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

a) 16, 30, 34

34^2 $16^2 + 30^2$

1156 ← Same 256 + 900

1156

They are equal so it is a right triangle.

c) 25^2 $20^2 + 15^2$

625   400 + 225

625

They are equal so it is a right triangle.

e) 17^2 $14^2 + 5^2$

289   196 + 25

221

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

g) 15^2 $9^2 + 9^2$

225   81 + 81

162

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

b) 12^2 $8^2 + 10^2$

144 ← Diff 64 + 100

164

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

d) 53^2 $28^2 + 45^2$

2809   784 + 2025

2809

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.

f) 38^2 $9^2 + 20^2$

900   81 + 400

481

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

h) 26^2 $10^2 + 24^2$

676   100 + 576

676

They are equal so it is a right triangle.

-

Homework Solutions #4(a,b)
#6 (a,c,f)
#7(a,f)
#8

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

a) 16, 30, 34

$34^2 \qquad 16^2 + 30^2$

$1156 \qquad 256 + 900$

$\qquad\qquad 1156$

They are equal so it is a Pythagorean triple.

b) $9^2 \qquad 6^2 + 8^2$

$\quad 81 \qquad 36 + 64$

$\qquad\qquad 100$

They are not equal so it is not Pythagorean triple.

c) $39^2 \quad 15^2 + 36^2$

$1521 \quad 225 + 1296$

$\qquad\quad 1521$

They are equal so it is a Pythagorean triple.

d) $65^2 \quad 63^2 + 16^2$

$4225 \quad 3969 + 256$

$\qquad\quad 4225$

They are equal so it is a Pythagorean triple.

e) $35^2 \quad 38^2 + 9^2$

$1225 \quad 900 + 81$

$\qquad\quad 981$

They are not equal so it is not Pythagorean triple.

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

f) $58^2 \qquad 40^2 + 42^2$

$3364 \qquad 1600 + 1764$

$\qquad\qquad 3364$

They are equal so it is a Pythagorean triple.

8. 15, 12, 9

Is $15^2 = 12^2 + 9^2$?

$\quad 225 \qquad 144 + 81$

$\qquad\qquad 225$

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

9. 6, 7, $\sqrt{13}$

$\qquad c$

$7^2 = 6^2 + \left(\sqrt{13}\right)^2$?

$49 \qquad 36 + 13$

$\qquad\quad 49$

$\sqrt{9} \quad \overset{\sqrt{13}}{} \quad \sqrt{16}$

$3 \qquad\qquad 4$

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

Class/Homework

Page 44-45

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

Page 48-49

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

Test

Unit 1:Square Roots & Pythagorean Theorem

Tuesday Dec. 3

$$C^2 = a^2 + b^2 \qquad or \qquad a^2 = C^2 - b^2$$