Geometry B Live Lesson Class

U3L2 – Special Right Triangles
(Ch. 8-2 in textbook)

Agenda

1. Review topics and problems from Unit 3, Lesson 2.

2. Use the 2-column note system to take better notes in math class. Bring your math notebook and pen or pencil to each math LiveLesson class.

2-Column Notes Template

1. Announcements/To Do's	1. Write down important details.
2. School-Wide Learner Outcomes	2. What are you going to work on this week?
3. LL Objectives	
4. Vocabulary words	4. Definitions (fill in as we go)
5. Problems	5. Steps to solving problems
6. Summary (End of class)	6. 1 or 2 sentences about the LL class.

Reminders and To – Do's

Information	What to do
1. Complete 1 math lesson per day.	1. Go to your Planner in Connexus to find the math lesson for the day
2. Check your WebMail every day	2. Go to Connexus to find WebMail
3. Be prepared to spend 4 - 6 hours per day on schoolwork.	3. Complete lessons for the day from your Planner. Do not get behind on lessons.
4. Remind your Learning Coach to take daily attendance	4. Have your Learning Coach log into Connexus daily.

Reminders and To – Do's

Information	What to do
5. Go to the Message Board first for information about our math class.	
6. Contact Mr. Elizondo for math questions. Remember: You need at least 2 phone calls with Mr. Elizondo per semester.	6. Call (559) 549 - 3244 and leave a voicemail if call is not answered. Make an appointment at: https://elizondo.youcanbook.me Send a WebMail

U3L2 – California Common Core State Standards

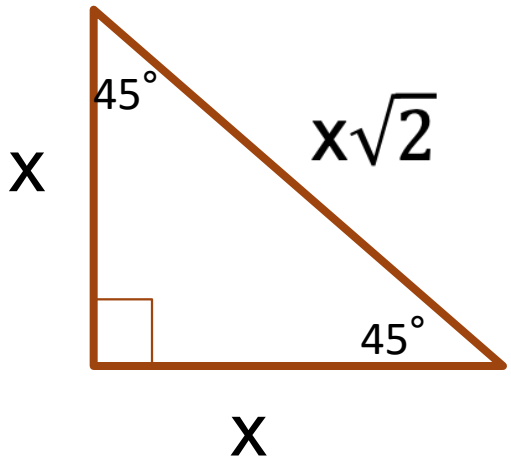
- HSG-SRT.C.6: Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.

U3L2 – Objectives

- Use the properties of 45-45-90 triangles and 30-60-90 triangles.

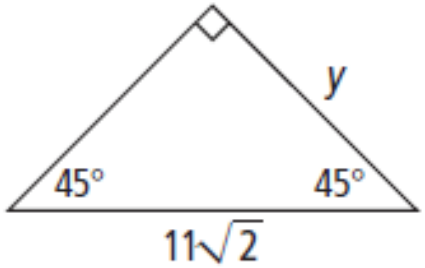
U3L2 – 45-45-90 Right Triangle

- 45-45-90 Triangles



Theorem 8-5 in textbook

Find the value of y. Put in simplest radical form.

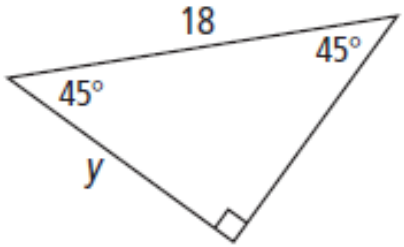


$$y^2 + y^2 = (11\sqrt{2})^2$$

$$2y^2 = 121 \cdot 2$$

$$y^2 = 121$$

$$\mathbf{y = 11}$$



$$y^2 + y^2 = 18^2$$

$$2y^2 = 324$$

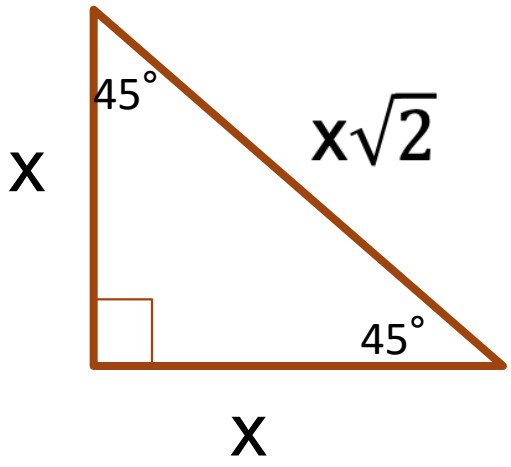
$$y^2 = 162$$

$$\sqrt{y^2} = \sqrt{81 \cdot 2}$$

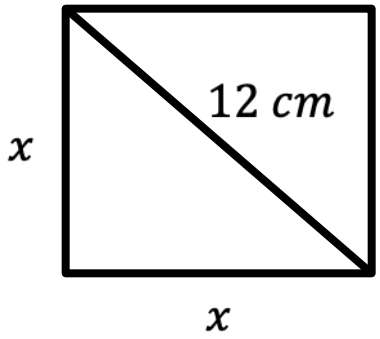
$$\mathbf{y = 9\sqrt{2}}$$

U3L2 – 45-45-90 Right Triangle

- 45-45-90 Triangles



A square has diagonal length of 12 cm. What is the side length of the square, to the nearest centimeter?



$$x^2 + x^2 = 12^2$$

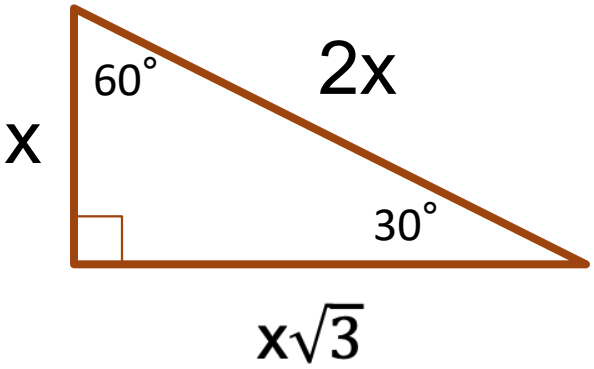
$$2x^2 = 144$$

$$x^2 = 72$$

$$\mathbf{x \approx 8.49cm}$$

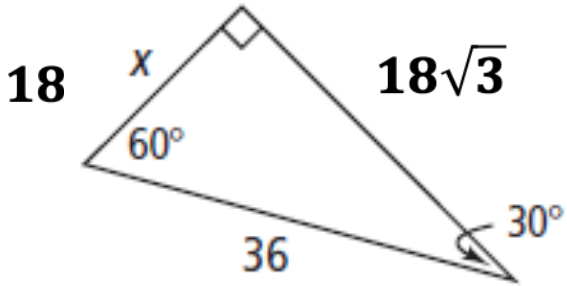
U3L2 – 30-60-90 Right Triangle

- 30-60-90 Triangles



Theorem 8-6 in textbook

Find the value of each variable. Put in simplest radical form if needed.



$2x = 36$

$x = 18$

$$18^2 + (18\sqrt{3})^2 = 36^2$$

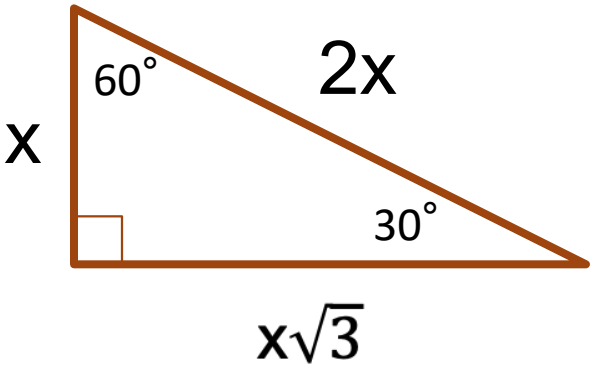
$$324 + 324 \cdot 3 = 1296$$

$$324 + 972 = 1296$$

$$1296 = 1296$$

U3L2 – 30-60-90 Right Triangle

- 30-60-90 Triangles



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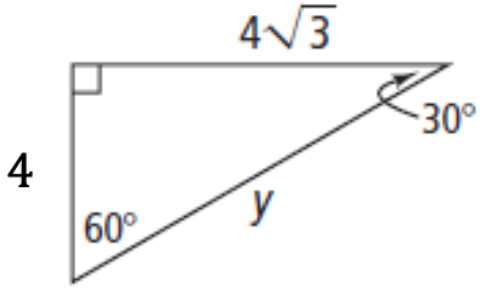


$$y = 2x$$
$$y = 8$$

$$4^2 + (4\sqrt{3})^2 = 8^2$$

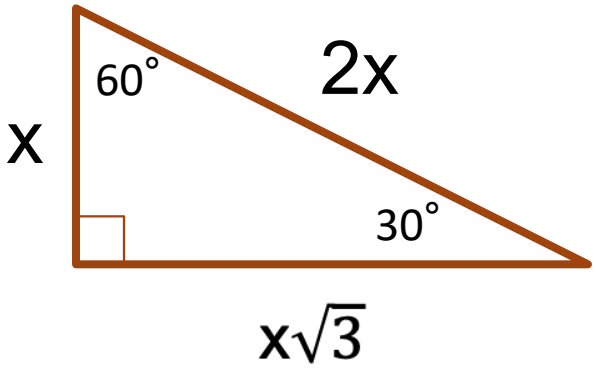
$$16 + 16 \cdot 3 = 64$$

$$16 + 48 = 64$$

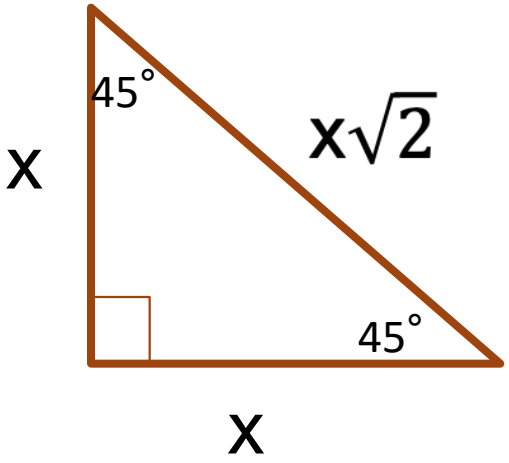
$$64 = 64$$

U3L2 – Special Right Triangle

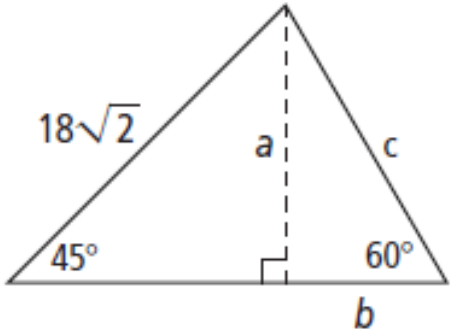
- 30-60-90 Triangles



- 45-45-90 Triangles



Find the value of each variable. Put in simplest radical form if needed.



$\boldsymbol{b = 6\sqrt{3}}$

$\boldsymbol{c = 12\sqrt{3}}$

$x\sqrt{2} = 18\sqrt{2}$

$x = 18$

$\boldsymbol{a = 18}$

$x\sqrt{3} = 18$

$\frac{x\sqrt{3}}{\sqrt{3}} = \frac{18}{\sqrt{3}}$

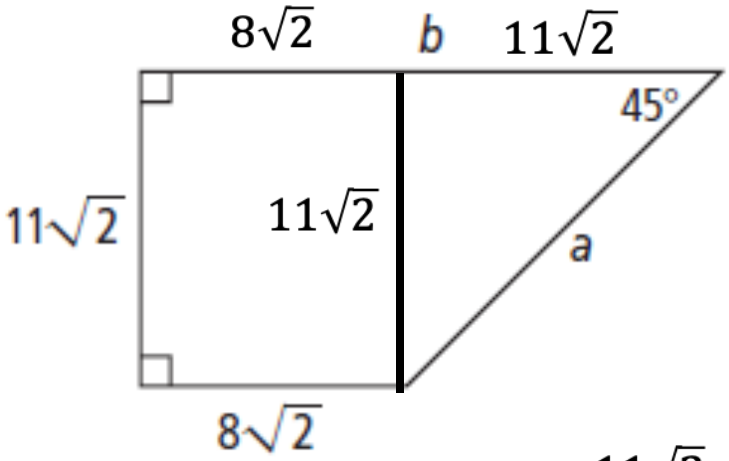
$x = \frac{18 \cdot \sqrt{3}}{\sqrt{3} \cdot \sqrt{3}}$

$x = \frac{18\sqrt{3}}{3}$

$x = 6\sqrt{3}$

U3L2 – Special Right Triangle

Find the value of each variable. Put in simplest radical form if needed.



$b = 8\sqrt{2} + 11\sqrt{2}$

$\boldsymbol{b = 19\sqrt{2}}$

$x = 11\sqrt{2}$

$a = x\sqrt{2}$

$a = 11\sqrt{2} \cdot \sqrt{2}$

$a = 11 \cdot 2$

$\boldsymbol{a = 22}$

Questions?

- Check the Message Board first
- Send a WebMail
- You can also make an appointment at https://elizondo.youcanbook.me
- You can also call me at (559) 549-3244. If I'm not available to answer your call, please leave a voicemail with your full name and phone number.