

Remote Learning Packet

NB: Please keep all work produced this week. Details regarding how to turn in this work will be forthcoming.

April 20 - 24, 2020

Course: Pre-Algebra

Teacher(s): Mrs. Frank leslie.frank@greatheartsirving.org

Mrs. Voltin mary.voltin@greatheartsirving.org

Weekly Plan:

Monday, April 20

- Addition Speed Test
- Lesson 10.5 Similar Triangles

Tuesday, April 21

- Subtraction Speed Test
- Lesson 10.5 Similar Triangles

Wednesday, April 22

- Multiplication Speed Test
- Lesson 10.6 Special Right Triangles

Thursday, April 23

- Division Speed Test
- Lesson 10.6 Special Right Triangles

Friday, April 24

- Roots Speed Test
- Chapter 10 Review and Test

Statement of Academic Honesty

I affirm that the work completed from the packet is mine and that I completed it independently.

I affirm that, to the best of my knowledge, my child completed this work independently

Student Signature

Parent Signature

Monday, April 20

1. Your speed test for the day will be the addition speed test. Time yourself, and write the time it took you to complete the entire test at the top of the page. After you have finished the test, use the answer key to check for accuracy. Write your score at the top of the page.
2. Read lesson 10-5, Similar Triangles, on pages 368-370. Read it once. Go back and read it again and work the example problems. Work the **Class Exercises** on page 370, #1-9, all. For extra help, go to:
<https://www.khanacademy.org/math/geometry/hs-geo-similarity/hs-geo-triangle-similarity-intro/v/similar-triangle-basics>

Please do not look at your answer key each day until you have worked every problem!

Tuesday, April 21

1. Your speed test for the day will be subtraction.
2. Review lesson 10-5. For more help in solving similar triangle problems, go to:
<https://www.khanacademy.org/math/geometry/hs-geo-similarity/hs-geo-solving-similar-triangles/v/similarity-example-problems>
Your homework assignment for today is HW 10.5, pp. 371-372, **Written Exercises**, #2-20, evens.

Wednesday, April 22

1. Your speed test for the day will be multiplication.
2. Read lesson 10-6, on pages 373-374. Read it once. Go back and read it again and work the example problems. Do the **Class Exercises** at the top of page 375, 1-12, all. For extra help, please look at the following links:

<https://www.khanacademy.org/math/geometry/hs-geo-trig/hs-geo-special-right-triangles/v/45-45-90-triangles>

<https://www.khanacademy.org/math/geometry/hs-geo-trig/hs-geo-special-right-triangles/v/intro-to-30-60-90-triangles>

Note: Do not get the **Class Exercises** assigned today confused with the **Written Exercises** assigned **tomorrow**. They look alike!

Thursday, April 23

1. Your speed test for the day will be division.
2. Review lesson 10-6. Review the videos from yesterday's assignment.

Your homework assignment for today is HW 10.6, pp. 375-376, **Written Exercises**, #2-20, evens **AND** pp. 376-377, **Problems**, #2-8, evens. You may use a calculator or the square root chart on page 528 in your book to find square roots.

Friday, April 24

1. Your speed test for the day will be square roots. **You only have to complete the first column of the speed test!**
2. Extra Practice: Chapter 10, pp. 520-521, #4-16, mod 4, #48-72, mod 4, plus #66.
3. **AFTER** you complete extra practice, check your work with the provided answer key.
4. Chapter 10 Test, page 391, #1-4, 8-15, all.

$$\begin{array}{r} 2 \\ +3 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ +4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ +9 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ +2 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ +8 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ +6 \\ \hline \end{array}$$

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$$\begin{array}{r} 8 \\ +3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ +6 \\ \hline \end{array}$$

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5	12	11	9	16
<u>- 2</u>	<u>- 4</u>	<u>- 9</u>	<u>- 7</u>	<u>- 8</u>

10	14	14	14	8
<u>- 6</u>	<u>- 5</u>	<u>- 7</u>	<u>- 6</u>	<u>- 3</u>

15	11	12	7	15
<u>- 7</u>	<u>- 4</u>	<u>- 7</u>	<u>- 2</u>	<u>- 6</u>

12	6	10	7	10
<u>- 9</u>	<u>- 3</u>	<u>- 3</u>	<u>- 4</u>	<u>- 8</u>

9	13	6	13	9
<u>- 4</u>	<u>- 7</u>	<u>- 2</u>	<u>- 9</u>	<u>- 3</u>

12	17	10	8	18
<u>- 6</u>	<u>- 9</u>	<u>- 5</u>	<u>- 6</u>	<u>- 9</u>

16	8	11	11	13
<u>- 9</u>	<u>- 4</u>	<u>- 3</u>	<u>- 6</u>	<u>- 5</u>

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$$\begin{array}{r} 6 \\ \div 3 \\ \hline \end{array}$$

$$\begin{array}{r} 32 \\ \div 4 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \\ \div 9 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ \div 2 \\ \hline \end{array}$$

$$\begin{array}{r} 64 \\ \div 8 \\ \hline \end{array}$$

$$\begin{array}{r} 24 \\ \div 6 \\ \hline \end{array}$$

$$\begin{array}{r} 45 \\ \div 5 \\ \hline \end{array}$$

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$$\begin{array}{r} 56 \\ \div 8 \\ \hline \end{array}$$

$$\begin{array}{r} 28 \\ \div 7 \\ \hline \end{array}$$

$$\begin{array}{r} 35 \\ \div 7 \\ \hline \end{array}$$

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$$\begin{array}{r} 27 \\ \div 9 \\ \hline \end{array}$$

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$$\begin{array}{r} 20 \\ \div 4 \\ \hline \end{array}$$

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$$\begin{array}{r} 36 \\ \div 4 \\ \hline \end{array}$$

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$$\begin{array}{r} 36 \\ \div 6 \\ \hline \end{array}$$

$$\begin{array}{r} 72 \\ \div 9 \\ \hline \end{array}$$

$$\begin{array}{r} 25 \\ \div 5 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ \div 2 \\ \hline \end{array}$$

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$$\begin{array}{r} 63 \\ \div 9 \\ \hline \end{array}$$

$$\begin{array}{r} 16 \\ \div 4 \\ \hline \end{array}$$

$$\begin{array}{r} 24 \\ \div 3 \\ \hline \end{array}$$

$$\begin{array}{r} 30 \\ \div 6 \\ \hline \end{array}$$

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Name _____

Section _____

$$\sqrt[2]{36} =$$

$$\sqrt[3]{27} =$$

$$\sqrt[4]{81} =$$

$$\sqrt[5]{3125} =$$

$$\sqrt[2]{361} =$$

$$\sqrt[3]{1000} =$$

$$\sqrt[4]{625} =$$

$$\sqrt[5]{243} =$$

$$\sqrt[2]{64} =$$

$$\sqrt[3]{216} =$$

$$\sqrt[4]{256} =$$

$$\sqrt[5]{1024} =$$

$$\sqrt[2]{25} =$$

$$\sqrt[3]{8} =$$

$$\sqrt[4]{16} =$$

$$\sqrt[5]{32} =$$

$$\sqrt[2]{100} =$$

$$\sqrt[3]{729} =$$

$$\sqrt[2]{4} =$$

$$\sqrt[3]{64} =$$

$$\sqrt[2]{121} =$$

$$\sqrt[3]{512} =$$

$$\sqrt[2]{16} =$$

$$\sqrt[3]{343} =$$

$$\sqrt[2]{169} =$$

$$\sqrt[3]{125} =$$

$$\sqrt[2]{49} =$$

$$\sqrt[2]{289} =$$

$$\sqrt[2]{400} =$$

$$\sqrt[2]{9} =$$

$$\sqrt[2]{196} =$$

$$\sqrt[2]{324} =$$

$$\sqrt[2]{256} =$$

$$\sqrt[2]{225} =$$

$$\sqrt[2]{144} =$$

$$\begin{array}{r} 2 \\ +3 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 8 \\ +4 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 2 \\ +9 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 7 \\ +2 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 8 \\ +8 \\ \hline 16 \end{array}$$

$$\begin{array}{r} 4 \\ +6 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 9 \\ +5 \\ \hline 14 \end{array}$$

$$\begin{array}{r} 7 \\ +7 \\ \hline 14 \end{array}$$

$$\begin{array}{r} 6 \\ +8 \\ \hline 14 \end{array}$$

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$$\begin{array}{r} 7 \\ +3 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 3 \\ +4 \\ \hline 7 \end{array}$$

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$$\begin{array}{r} 5 \\ +6 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 8 \\ +5 \\ \hline 13 \end{array}$$

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$\begin{array}{r} 10 \\ - 6 \\ \hline 4 \end{array}$	$\begin{array}{r} 14 \\ - 5 \\ \hline 9 \end{array}$	$\begin{array}{r} 14 \\ - 7 \\ \hline 7 \end{array}$	$\begin{array}{r} 14 \\ - 6 \\ \hline 8 \end{array}$	$\begin{array}{r} 8 \\ - 3 \\ \hline 5 \end{array}$
$\begin{array}{r} 15 \\ - 7 \\ \hline 8 \end{array}$	$\begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array}$	$\begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$	$\begin{array}{r} 7 \\ - 2 \\ \hline 5 \end{array}$	$\begin{array}{r} 15 \\ - 6 \\ \hline 9 \end{array}$
$\begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array}$	$\begin{array}{r} 6 \\ - 3 \\ \hline 3 \end{array}$	$\begin{array}{r} 10 \\ - 3 \\ \hline 7 \end{array}$	$\begin{array}{r} 7 \\ - 4 \\ \hline 3 \end{array}$	$\begin{array}{r} 10 \\ - 8 \\ \hline 2 \end{array}$
$\begin{array}{r} 9 \\ - 4 \\ \hline 5 \end{array}$	$\begin{array}{r} 13 \\ - 7 \\ \hline 6 \end{array}$	$\begin{array}{r} 6 \\ - 2 \\ \hline 4 \end{array}$	$\begin{array}{r} 13 \\ - 9 \\ \hline 4 \end{array}$	$\begin{array}{r} 9 \\ - 3 \\ \hline 6 \end{array}$
$\begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array}$	$\begin{array}{r} 17 \\ - 9 \\ \hline 8 \end{array}$	$\begin{array}{r} 10 \\ - 5 \\ \hline 5 \end{array}$	$\begin{array}{r} 8 \\ - 6 \\ \hline 2 \end{array}$	$\begin{array}{r} 18 \\ - 9 \\ \hline 9 \end{array}$
$\begin{array}{r} 16 \\ - 9 \\ \hline 7 \end{array}$	$\begin{array}{r} 8 \\ - 4 \\ \hline 4 \end{array}$	$\begin{array}{r} 11 \\ - 3 \\ \hline 8 \end{array}$	$\begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array}$	$\begin{array}{r} 13 \\ - 5 \\ \hline 8 \end{array}$

$$\begin{array}{r} 2 \\ \times 3 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 8 \\ \times 4 \\ \hline 32 \end{array}$$

$$\begin{array}{r} 2 \\ \times 9 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 7 \\ \times 2 \\ \hline 14 \end{array}$$

$$\begin{array}{r} 8 \\ \times 8 \\ \hline 64 \end{array}$$

$$\begin{array}{r} 4 \\ \times 6 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 9 \\ \times 5 \\ \hline 45 \end{array}$$

$$\begin{array}{r} 7 \\ \times 7 \\ \hline 49 \end{array}$$

$$\begin{array}{r} 6 \\ \times 8 \\ \hline 48 \end{array}$$

$$\begin{array}{r} 3 \\ \times 5 \\ \hline 15 \end{array}$$

$$\begin{array}{r} 7 \\ \times 8 \\ \hline 56 \end{array}$$

$$\begin{array}{r} 4 \\ \times 7 \\ \hline 28 \end{array}$$

$$\begin{array}{r} 5 \\ \times 7 \\ \hline 35 \end{array}$$

$$\begin{array}{r} 2 \\ \times 5 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 9 \\ \times 6 \\ \hline 54 \end{array}$$

$$\begin{array}{r} 3 \\ \times 9 \\ \hline 27 \end{array}$$

$$\begin{array}{r} 3 \\ \times 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 7 \\ \times 3 \\ \hline 21 \end{array}$$

$$\begin{array}{r} 3 \\ \times 4 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 8 \\ \times 2 \\ \hline 16 \end{array}$$

$$\begin{array}{r} 5 \\ \times 4 \\ \hline 20 \end{array}$$

$$\begin{array}{r} 6 \\ \times 7 \\ \hline 42 \end{array}$$

$$\begin{array}{r} 4 \\ \times 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 9 \\ \times 4 \\ \hline 36 \end{array}$$

$$\begin{array}{r} 6 \\ \times 3 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 6 \\ \times 6 \\ \hline 36 \end{array}$$

$$\begin{array}{r} 8 \\ \times 9 \\ \hline 72 \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline 25 \end{array}$$

$$\begin{array}{r} 6 \\ \times 2 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 9 \\ \times 9 \\ \hline 81 \end{array}$$

$$\begin{array}{r} 7 \\ \times 9 \\ \hline 63 \end{array}$$

$$\begin{array}{r} 4 \\ \times 4 \\ \hline 16 \end{array}$$

$$\begin{array}{r} 8 \\ \times 3 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 5 \\ \times 6 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 8 \\ \times 5 \\ \hline 40 \end{array}$$

$$\begin{array}{r} 6 \\ \div 3 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 32 \\ \div 4 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 18 \\ \div 9 \\ \hline 2 \end{array}$$

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$$\begin{array}{r} 27 \\ \div 9 \\ \hline 3 \end{array}$$

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Name _____

Section _____

$$\sqrt[2]{36} = 6$$

$$\sqrt[3]{27} = 3$$

$$\sqrt[4]{81} = 3$$

$$\sqrt[5]{3125} = 5$$

$$\sqrt{361} = 19$$

$$\sqrt[3]{1000} = 10$$

$$\sqrt[4]{625} = 5$$

$$\sqrt[5]{243} = 3$$

$$\sqrt{64} = 8$$

$$\sqrt[3]{216} = 6$$

$$\sqrt[4]{256} = 4$$

$$\sqrt[5]{1024} = 4$$

$$\sqrt{25} = 5$$

$$\sqrt[3]{8} = 2$$

$$\sqrt[4]{16} = 2$$

$$\sqrt[5]{32} = 2$$

$$\sqrt{100} = 10$$

$$\sqrt[3]{729} = 9$$

$$\sqrt{4} = 2$$

$$\sqrt[3]{64} = 4$$

$$\sqrt{121} = 11$$

$$\sqrt[3]{512} = 8$$

$$\sqrt{16} = 4$$

$$\sqrt[3]{343} = 7$$

$$\sqrt{169} = 13$$

$$\sqrt[3]{125} = 5$$

$$\sqrt{49} = 7$$

$$\sqrt{289} = 17$$

$$\sqrt{400} = 20$$

$$\sqrt{9} = 3$$

$$\sqrt{196} = 14$$

$$\sqrt{324} = 18$$

$$\sqrt{256} = 16$$

$$\sqrt{225} = 15$$

$$\sqrt{144} = 12$$

4/20

Monday, 10-5, Class Exercises, pg. 370, 1-9

$$1. \begin{array}{l} \angle O \cong \angle I \\ \angle G \cong \angle T \\ \angle L \cong \angle R \end{array}$$

$$2. \begin{array}{l} \overline{OG} \cong \overline{IT} \\ \overline{OL} \cong \overline{IR} \\ \overline{LG} \cong \overline{RT} \end{array}$$

$$3. \frac{OL}{IR} = \frac{OG}{IT}$$

$$4. \frac{LG}{RT} = \frac{GO}{TI}$$

5. True

6. True

7. True because all 3 \angle 's have the same measure.

8. False. \overline{BA} & \overline{DE} are not corresponding sides.

9. True.

Tuesday, 4/21, 10:5, pp. 371-372, WE, #2-20, evens

$$2. \frac{BA}{\boxed{QP}} = \frac{CB}{RQ}$$

$$10. \frac{AB}{AD} = \frac{1}{2} \text{ same ratio!}$$

$$4. \frac{AC}{PR} = \frac{?}{6} = \frac{20}{12} = \frac{BC}{QP} \text{ Big } \triangle$$

$$12. \frac{\text{Small}}{\text{Large}} \frac{18 \div 6}{24 \div 6} = \frac{3}{4} \text{ ratio}$$

$$\frac{X}{6} = \frac{20}{12} \text{ Cross-multiply}$$

$$\frac{\text{Small}}{\text{Large}} \frac{3}{4} = \frac{15}{X} \text{ Cross multiply}$$

$$12X = 20 \cdot 6$$

$$3X = 4 \cdot 15$$

$$\frac{12X}{12} = \frac{120}{12}$$

$$\frac{3X}{3} = \frac{60}{3}$$

$$\boxed{X = 10}$$

$$\boxed{X = 20}$$

$$6. \frac{AE}{AC} = \frac{?}{24} = \frac{14}{7} = \frac{DE}{BC} \text{ Big } \triangle$$

$$\frac{\text{Small}}{\text{Large}} \frac{3}{4} = \frac{y}{4}$$

$$\frac{X}{24} = \frac{14}{7} \leftarrow \text{You can reduce}$$

$$\boxed{y = 3!}$$

$$\frac{X}{24} = \frac{2}{1} \leftarrow \text{Ratio}$$

$$14. \frac{\text{Small}}{\text{Large}} \frac{13 \div 13}{26 \div 13} = \frac{1}{2} \text{ ratio}$$

$$X = 2 \cdot 24 = \boxed{48}$$

$$\frac{\text{Small}}{\text{Large}} \frac{1}{2} = \frac{X}{10}$$

8. We do not know the length of the corresponding side to \overline{AD} which is \overline{AB} . Instead, use the pythagorean theorem:

$$\frac{2X}{2} = \frac{10}{2}$$

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

$$\overline{AE}^2 + \overline{DE}^2 = \overline{AD}^2$$

$$48^2 + 14^2 = \overline{AD}^2$$

$$2304 + 196 = 2500$$

$$\overline{AD}^2 = 2500$$

$$\boxed{\overline{AD} = 50}$$

$$\frac{\text{Small}}{\text{Large}} \frac{1}{2} = \frac{12}{y}$$

$$\boxed{y = 2 \cdot 12 = 24}$$

Tuesday (continued)

16. Small Δ $\frac{25 \div 5 = 5$ ratio
Large Δ $\frac{45 \div 5 = 9$

$$\frac{\text{Small}}{\text{Large}} = \frac{5}{9} = \frac{20}{y} \quad \text{Cross multiply}$$

$$5y = 9 \cdot 20$$

$$5y = 180$$

$$y = 36$$

$$\frac{\text{Small}}{\text{Large}} = \frac{5}{9} = \frac{10}{x}$$

$$5x = 9 \cdot 10$$

$$5x = 90$$

$$x = 18$$

18. Small Δ $\frac{3}{10}$ Ratio!
Large Δ $\frac{10}{h}$

$$\frac{3}{10} = \frac{1.8}{h} \quad \begin{array}{l} \text{Small} \\ \text{Large} \end{array}$$

$$3h = 1.8 \cdot 10$$

$$3h = 18$$

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

$$h = 6 \text{ meters}$$

20. small Δ $= \frac{15 \div 5 = 3$ ratio
large Δ $= \frac{25 \div 5 = 5$

$$\frac{\text{small}}{\text{large}} = \frac{3}{5} = \frac{21}{x}$$

$$3x = 5 \cdot 21$$

$$3x = 105$$

$$\frac{3}{3} = \frac{105}{3}$$

$$x = 35 \text{ meters}$$

Wednesday, 4/22, 10-6, page 375, 1-12, all class Exercises

$$1. \frac{1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{3}$$

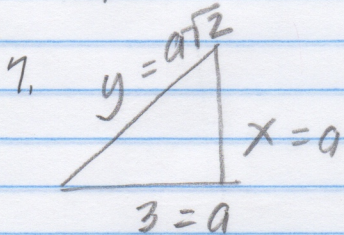
$$2. \frac{2}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$$

$$3. \frac{2}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{2\sqrt{2}}{2} = \sqrt{2}$$

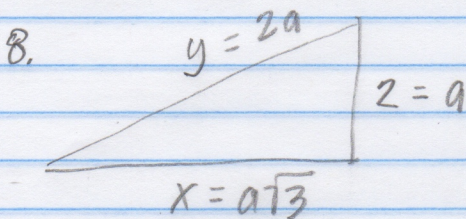
$$4. \frac{6}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{6\sqrt{2}}{2} = 3\sqrt{2}$$

$$5. \frac{1}{\sqrt{x}} \cdot \frac{\sqrt{x}}{\sqrt{x}} = \frac{\sqrt{x}}{x}$$

$$6. \frac{x}{\sqrt{x}} \cdot \frac{\sqrt{x}}{\sqrt{x}} = \frac{x\sqrt{x}}{x} = \sqrt{x}$$

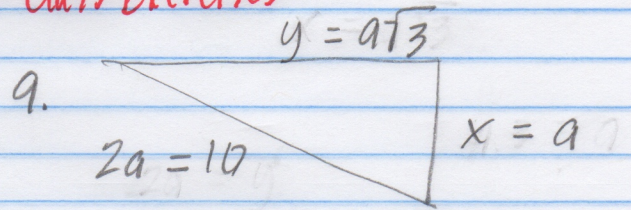


$$x = a = 3 \quad y = a\sqrt{2} = 3\sqrt{2}$$



$$x = a\sqrt{3} = 2\sqrt{3} \quad z = a = 2$$

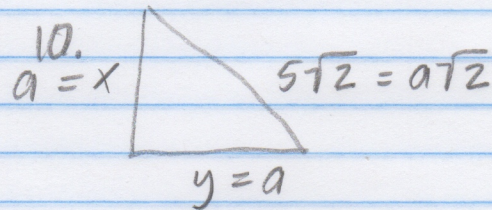
$$y = 2a = 2 \cdot 2 = 4$$



$$\frac{2a = 10}{2} \quad \frac{10}{2} = a = 5$$

$$x = a = 5$$

$$y = a\sqrt{3} = 5\sqrt{3}$$

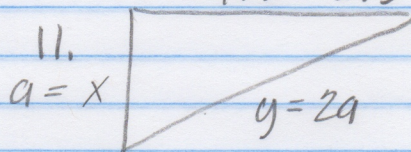


$$5\sqrt{2} = a\sqrt{2} \quad x = a = 5$$

$$y = a = 5$$

$$a = 5$$

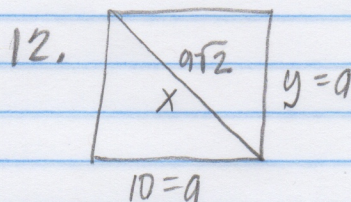
$$4\sqrt{3} = a\sqrt{3}$$



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

$$4 = a$$

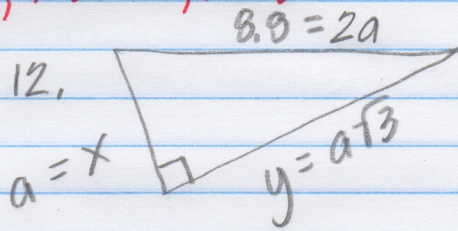
$$y = 2a = 2 \cdot 4 = 8$$



$$y = a = 10 \quad x = a\sqrt{2} = 10\sqrt{2}$$

THURSDAY, 4.23, HW 10.6, pp. 375-376, WE, # 20-20, evens

$$2. \frac{12}{\sqrt{13}} \cdot \frac{\sqrt{13}}{\sqrt{13}} = \frac{12\sqrt{13}}{13}$$



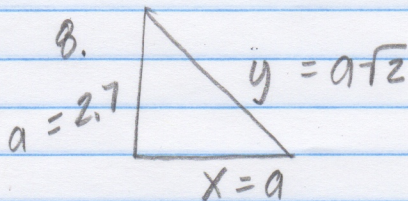
$$\frac{2a}{2} = \frac{8.9}{2} \quad a = x = \boxed{4.4}$$

$$a = 4.4$$

$$y = a\sqrt{3} = (4.4)(1.732) = \boxed{7.6}$$

$$4. \frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

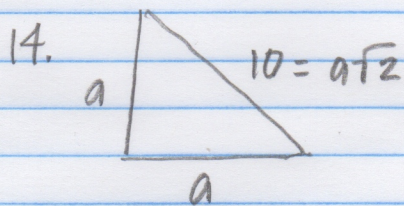
$$6. \frac{3x}{\sqrt{x}} \cdot \frac{\sqrt{x}}{\sqrt{x}} = \frac{3x\sqrt{x}}{x} = \boxed{3\sqrt{x}}$$



$$x = a = \boxed{2.7}$$

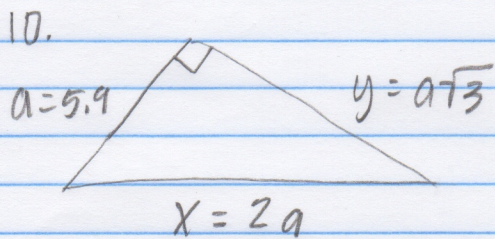
$$y = a\sqrt{2} = (2.7)(1.414) = 3.8178$$

$$\boxed{y = 3.8}$$



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

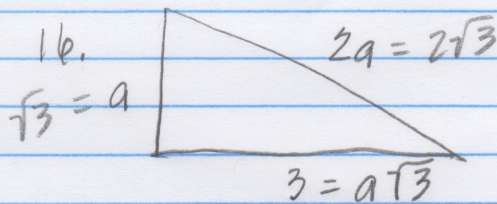
$$a = \frac{10}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{10\sqrt{2}}{2} = \boxed{5\sqrt{2}}$$



$$x = 2a = 2 \cdot 5.9 = \boxed{11.8}$$

$$y = a\sqrt{3} = (5.9)(1.732) = 10.2188$$

$$\boxed{y = 10.2}$$



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

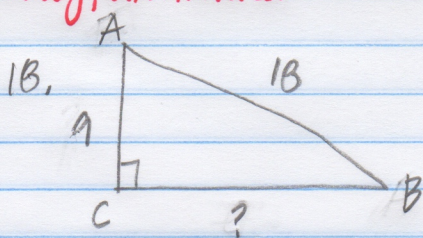
$$a = \frac{3 \cdot \sqrt{3}}{\sqrt{3} \cdot \sqrt{3}} = \frac{3\sqrt{3}}{3}$$

$$\boxed{a = \sqrt{3}}$$

$$\boxed{2a = 2\sqrt{3}}$$

4/23

Thursday, continued:



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

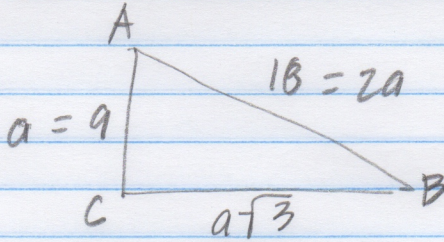
$$a^2 + 9^2 = 18^2$$

$$a^2 + 81 = 324$$

$$\begin{array}{r} -81 \quad -81 \\ \hline a^2 = 243 \end{array}$$

$$a = 15.6$$

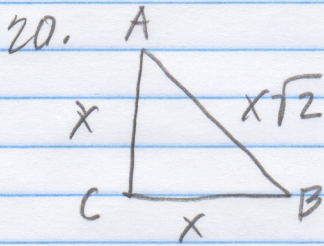
$$\boxed{BC = 15.6}$$



Since $18 = 2 \cdot 9$, we also know this is a 30-60-90 Δ

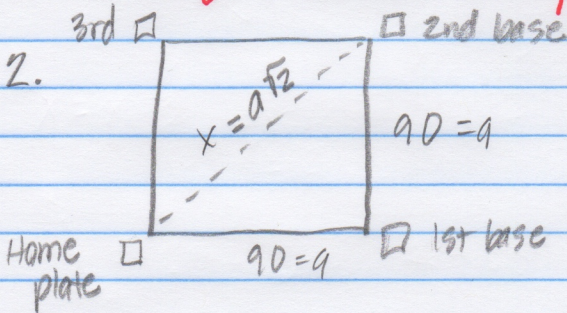
$$a = 9 \quad BC = a\sqrt{3} = 9\sqrt{3} = \boxed{15.6}$$

Solve with the pythagorean theorem or 30/60/90



$$AB = x\sqrt{2} = \boxed{1.4x}$$

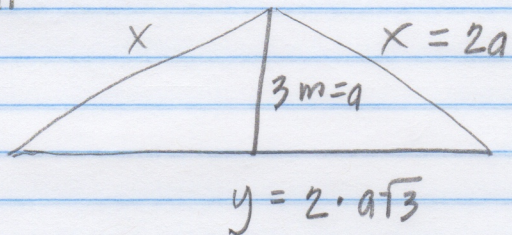
Still Thursday: Problems 10.6 pp. 376-377, #2-8, evens



$$x = a\sqrt{2} = 90\sqrt{2} = \boxed{127.3 \text{ ft}}$$

Thursday, 4/23, Problems, Continued:

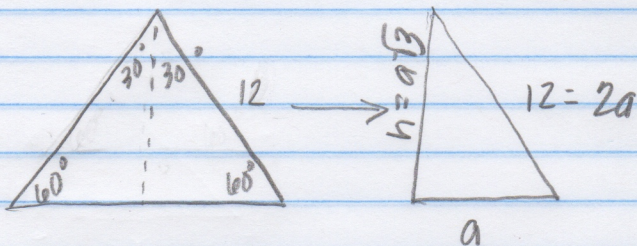
4.



$$x = 2a = 2 \cdot 3 = \boxed{6 \text{ meters}}$$

$$y = 2 \cdot a\sqrt{3} = 2 \cdot 3\sqrt{3} = 6\sqrt{3} = \boxed{10.4 \text{ m}}$$

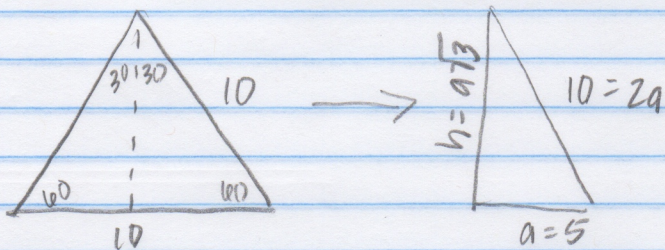
6.



$$\frac{12}{2} = \frac{2a}{2} \quad \boxed{a = 6}$$

$$h = a\sqrt{3} = 6\sqrt{3} = \boxed{10.4 \text{ cm}}$$

8.



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

$$h = a\sqrt{3} = 5\sqrt{3} = \boxed{8.7 \text{ units}}$$

$$A = \frac{b \cdot h}{2} = \frac{10(8.7)}{2} = \boxed{43.5 \text{ sq units}}$$

Small diagram of the triangle with base 10 and height 8.7.

FRIDAY, Extra Practice, Chap. 10

4. $\sqrt{10}$ $3 \cdot 3 = 9$
 $4 \cdot 4 = 16$

$$\sqrt{9} < \sqrt{10} < \sqrt{16}$$

$$\boxed{3 < \sqrt{10} < 4}$$

8. $-\sqrt{12}$ $3 \cdot 3 = 9$

$4 \cdot 4 = 16$

$$-\sqrt{16} < -\sqrt{12} < -\sqrt{9}$$

$$\boxed{-4 < -\sqrt{12} < -3}$$

12. $\sqrt{19}$ $4 \cdot 4 = 16$
 $5 \cdot 5 = 25$

$$\sqrt{16} < \sqrt{19} < \sqrt{25}$$

$$\boxed{4 < \sqrt{19} < 5}$$

16. $\sqrt{64} = \boxed{8}$

48. 8, 15, 17

$$8^2 + 15^2 \quad \bigcirc \quad 17^2$$

$$64 + 225 \quad 289$$

$$289 = 289$$

Yes

52. 7, 9, 12

$$7^2 + 9^2 \quad \bigcirc \quad 12^2$$

$$49 + 81 \quad 144$$

$$130 \neq 144$$

No

56. $a = 3$ $b = ?$ $c = 5$

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

$$3^2 + b^2 = 5^2$$

$$9 + b^2 = 25$$

$$-9 \quad -9$$

$$b^2 = 16 \quad \boxed{b = 4}$$

60. $a = 6$ $b = ?$ $c = 10$

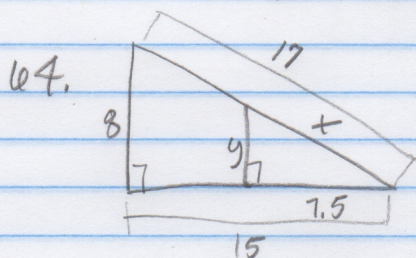
$$a^2 + b^2 = c^2$$

$$6^2 + b^2 = 10^2$$

$$36 + b^2 = 100$$

$$-36 \quad -36$$

$$b^2 = 64 \quad \boxed{b = 8}$$



Small Δ $\frac{7.5}{15} = \frac{1}{2}$ ratio
 Big Δ $\frac{7.5}{15} = \frac{1}{2}$ ratio

Small $\frac{x}{25} = \frac{x}{17}$
 Large $\frac{y}{15} = \frac{y}{8}$

Small $\frac{y}{15} = \frac{y}{8}$
 Large $\frac{x}{25} = \frac{x}{17}$

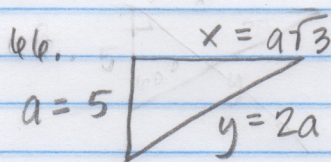
$$\frac{2x = 17}{2} \quad \frac{17}{2}$$

$$\frac{2y = 8}{2} \quad \frac{8}{2}$$

$x = 8.5$

$y = 4$

$$\boxed{y = 4}$$

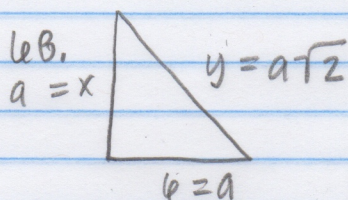


$$x = a\sqrt{3}$$

$$\boxed{x = 5\sqrt{3}}$$

$$y = 2a$$

$$y = 2 \cdot 5 = \boxed{10}$$



$$x = a = \boxed{6}$$

$$y = a\sqrt{2} = \boxed{6\sqrt{2}}$$

72. $\frac{7}{14} \cdot \frac{14}{14} = \frac{7\sqrt{4}}{4} = \frac{7 \cdot 2}{4} = \frac{14}{4} = \frac{7}{2}$ or $3\frac{1}{2}$