

Essential Questions	Answers
1.	
2.	
3.	
4.	
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8.	
9.	
10.	

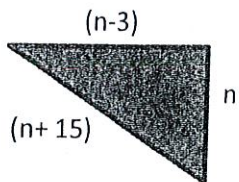
Name: _____ Date: _____ Week: _____

"Warm-up's Q1W9"

8.EE.7

Monday Warm-up

The perimeter of the triangle is 22.7. What is the value of n ?



Show all your work

Tuesday Warm-up

(8.EE.3)

The diagonal of a square is the square root of 2500 centimeters long. What is the length of each side of square?

Show all work here

Wednesday Warm-up

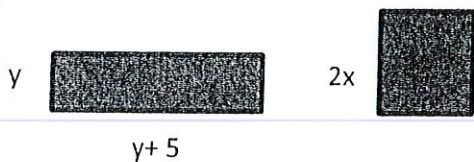
(8.EE.2)

The area of the square is $4,900 \text{ ft}^2$. What is the perimeter of the square?

Show all work here

Thursday Warm-up

The following rectangle and square have the same perimeter. What is the value of x ?



Looking Back and Looking Ahead

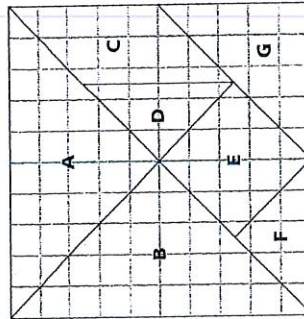
Unit Review

While working on problems in this unit, you extended your skill in using a coordinate system to locate points and figures. Then, by studying patterns in the side lengths and areas of squares on dot grids, you learned the Pythagorean Theorem. You used this property of right triangles to solve a variety of practical problems, some of which involved irrational numbers.

Use Your Understanding: The Pythagorean Theorem

Test your understanding of the Pythagorean Theorem and its relationship to area, lengths of line segments, and irrational numbers by solving the following problems.

- The diagram shows a Chinese tangram puzzle on a 10-by-10 grid.

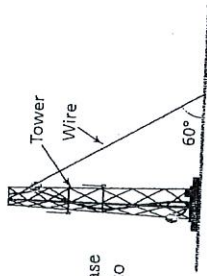


- What is the area of shape E?
- What is the length of each side of shape E?
- What are the lengths of the sides of triangle A?
- Name all the triangles that are similar to triangle A. In each case, give a scale factor for the similarity relationship.

$$\text{imate } \sqrt{18}$$

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 puzzle
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- A 60-foot piece of wire is strung between the top of a tower and the ground, making a 30-60-90 triangle.
 - How far from the center of the base of the tower is the wire attached to the ground?
 - How high is the tower?



Explain Your Reasoning

When you present work based on the Pythagorean relationship, you should be able to justify your calculations and conclusions.

- How can you find the side length of a square if you know its area?
- How can you find the length of a segment joining two points on a coordinate grid?
- The diagrams below show squares drawn on the sides of triangles.

Figure 1

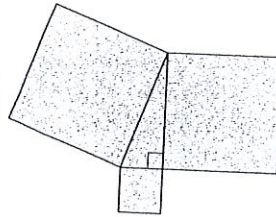
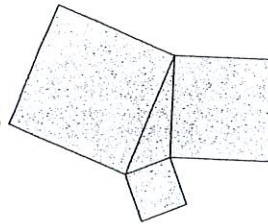


Figure 2



- In Figure 1, what is the relationship among the areas of the squares?
- Explain why the relationship you describe in part (a) is not true for Figure 2.

Which of the following numbers is the third greatest?

4, -13, 0, -11, 3.99, -2.5, -7

- A** -13
- B** -2.5
- C** 0
- D** 4

Which answer lists the numbers in descending order?

$5\frac{4}{7}$, -12, 0, 3.01, $\sqrt{25}$

- A** $5\frac{4}{7}$, $\sqrt{25}$, 3.01, 0, -12
- B** 0, 3.01, $\sqrt{25}$, $5\frac{4}{7}$, -12
- C** -12, 0, 3.01, $\sqrt{25}$, $5\frac{4}{7}$
- D** -12, $5\frac{4}{7}$, $\sqrt{25}$, 3.01, 0

Which number is a rational number?

- A** $\frac{5}{7}$
- B** $\sqrt{3}$
- C** π
- D** $\sqrt{14}$

Which of the following numbers are integers?


$\frac{1}{2}$, 4, 0.3, $\sqrt{5}$, $\frac{2}{9}$, $\sqrt{19}$, 0

- A** $\frac{1}{2}$, $\frac{2}{9}$
- B** 4, 0
- C** $\sqrt{5}$, $\sqrt{19}$
- D** 4, $\sqrt{19}$, 0

Name: _____ Date: _____

Refresher Math Choice Board (Homework)

Directions: There are a total of 24 problems on this board. To receive full credit the board must be blacked out (ALL PROBLEMS COMPLETE by Friday (at the beginning of class). You may select 6 problems to complete per night. This will reduce you from having 24 problems to complete Thursday night. This board will always contain review concepts that you will always need to know and use in this math class and any math class to come. COMPLETION of this board is **NOT OPTIONAL!!** Be sure to show your work on another sheet of paper with the number labeled, (Ex: M-2) and write and box your answers on your board. This is **MANDATORY!!**

M	A	T	H	O
$18.12 + 3.152 =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">M-1</div>	$-25.6 - (4.4) =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">A-1</div>	$\frac{-16.2}{1.8} =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">T-1</div>	$(4.5)(-0.4) =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">H-1</div>	$-15.4 + 32.7 =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">O-1</div>
$(-11.1)(-0.2) =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">M-2</div>	$\frac{-0.210}{-0.150} =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">A-2</div>	$(0.2)(8.3)(-0.3) =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">T-2</div>	$-0.9 + (-1.5) =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">H-2</div>	$\frac{2.926}{-0.770} =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">O-2</div>
$\frac{-6.120}{72} =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">M-3</div>	$-6.1 - 3.22 =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">A-3</div>		$(13.2)(50.3) =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">H-3</div>	$(78.05)(4.215) =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">O-3</div>
$(-13.44) \div (-5.6) =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">M-4</div>	$3.2 - 1.04 =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">A-4</div>	$(-3.12)(.012) =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">T-4</div>	$\frac{1.675}{.025} =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">H-4</div>	$-5.4 + 3.31 =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">O-4</div>
$-5.7 - (-32.5) =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">M-5</div>	$8.9515 \div 0.0005 =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">A-5</div>	$4.7 - (-3.6) + 6.2 =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">T-5</div>	$-13.275 + 1.08 =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">H-5</div>	$(-9.45)(23.7) =$ <div style="border: 1px solid black; display: inline-block; padding: 2px;">O-5</div>

Name: _____ Date: _____

Concept Rules					
	Addition	Subtraction	Multiplying	Dividing	
Integers!:	Same signs: add and keep the sign Ex: $-5 + -29 = -34$ $12 + 18 = 30$	Copy the first number Change subtraction to addition Change the sign of the next # Follow addition rules Ex: $-14 - 12 =$ <small>Copy Change Change</small> $-14 + (-12) = -26$ $74 - (81) =$ <small>Copy change change</small> $74 + (-81) = -3$	Pos * Pos = Pos $3 * 3 = 9$ $(5)(5) = 25$ Neg * Neg = Pos $-9 * -21 = 189$ $(-8)(-14) = 112$ Pos * Neg = Neg $10 * -15 = -150$ $(23)(-32) = -736$ Neg * Pos = Neg $-12 * 21 = -252$ $(-15)(89) = -1335$	Pos ÷ Pos = Pos $33 ÷ 3 = 11$ $(75)/(5) = 15$ Neg ÷ Neg = Pos $-99 ÷ -33 = 3$ $(-78)/(-39) = 2$ Pos ÷ Neg = Neg $10 ÷ -1 = -10$ $(123)/(-41) = -3$ Neg ÷ Pos = Neg $-144 ÷ 8 = -18$ $(-15)/(5) = -3$	
	Different signs subtract and keep the sign of the number with the highest absolute value Ex: $-45 + 73 = 28$ $-24 + 13 = -11$				
		Addition Line up decimals Add Ex. $12.21 + 4.20$ $\begin{array}{r} 12.21 \\ + 4.20 \\ \hline 16.41 \end{array}$	Multiplication Line up the digits, Multiply, Count the number of digits behind the decimal, Move the decimal that many times to the right in your answer. Ex. $(42.123)(8.1)$ $\begin{array}{r} 42.123 \\ \times 8.1 \\ \hline 3479840 \\ \hline 341.1963 \end{array}$ <p style="margin-left: 100px;">} 4 Numbers behind decimal</p> <p style="margin-left: 100px;">← 4 Numbers behind decimal.</p>	Division Move decimal point to right to make the divisor a whole number and move decimal point in dividend the same number of places. Divide as usual. Put decimal point directly above decimal point in the dividend. $\begin{array}{r} .924 \leftarrow \text{Dividend (inside)} \\ .220 \leftarrow \text{Divisor (outside)} \\ \hline 4.2 \\ \hline 220 \overline{) 924.0} \\ \underline{-880} \\ 440 \\ \underline{-440} \\ 0 \end{array}$	
Decimals	Subtraction Line up decimals Subtract Ex. $42.01 - 8.27$ $\begin{array}{r} 42.01 \\ - 8.27 \\ \hline 33.94 \end{array}$				

Combine your integer rules & decimal Rules to solve your problems on your MATHO board