A $\sqrt{4}$	**B** $\lvert -17 \rvert$	**C** $\sqrt{49}$
D π	**E** $-\sqrt{36}$	**F** $5\frac{1}{13}$
G $\frac{1}{7}$	**H** $\sqrt{17}$	**I** $-2\frac{1}{3}$
J 8	**K** -15.5	**L** $\sqrt{40}$

M $\sqrt{82}$	**N** $-\sqrt{52}$	**O** $-\frac{17}{2}$
P $-\frac{10}{3}$	**Q** $-\sqrt{47}$	**R** $\sqrt{144}$
S $\frac{36}{2}$	**T** $\sqrt{121}$	**U** $\sqrt{111}$
V -0.6	**W** -11.5	**X** $14.\overline{12}$

LT 2ab:
I can determine if a number is rational or irrational.
I can classify the sum and product of rational and irrational numbers.

p.5 Unit 5

Define: **Rational Number**

A number that can be written in the form $\frac{a}{b}$, where a and b are integers and $b \neq 0$.

1) _____

2) _____

3) _____

examples:

Define: **Irrational Number**

A number that **cannot** be written as the quotient of two integers.

1) _____

2) _____

examples:

Identify each number as rational or irrational.

1. $\sqrt{196}$	**2.** $-\sqrt{121}$	**3.** $\frac{1}{7}$	**4.** $-\sqrt{45}$	**5.** $\sqrt{\frac{4}{25}}$
6. $-1\frac{1}{2}$	**7.** $\sqrt{23}$	**8.** 0.75	**9.** $\sqrt{0}$	**10.** $4.\overline{2}$

Classify sums:

Rational + Rational =

Irrational + Irrational =

Rational + Irrational =

Classify Products:

Rational * Rational =

Irrational * Irrational =

Rational * Irrational =

You try: Simplify and classify each expression as rational or irrational.

1. $2(\frac{1}{5})$	**2.** $\sqrt{6} \cdot \sqrt{3}$	**3.** $\sqrt{3} \cdot \sqrt{12}$
4. $5(\sqrt{2})$	**5.** $\sqrt{7} + \sqrt{7}$	**6.** $5 + \sqrt{12}$

Summary:

☆

☆

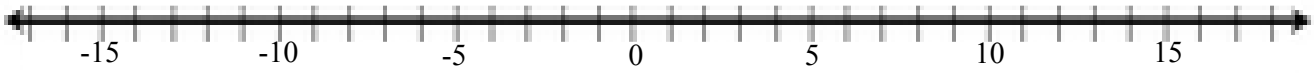
CW p.7 (card sort) **P** p.7 (all)

p.7 Unit 5

Card sort: Sort cards into two piles: Rational and Irrational. Record your answers below.

Rational	Irrational

Card sort: Arrange the cards from least to greatest. Record the answers on the number line below.



For 1-8, simplify and classify the expressions as rational or irrational.

1. $5 + \sqrt{4}$

2. $7(\sqrt{6})$

3. $9 + \sqrt{7}$

4. $2(\sqrt{9})$

5. $\sqrt{1} + \sqrt{64}$

6. $\sqrt{16} \cdot \sqrt{25}$

7. $\sqrt{12} + \sqrt{12}$

8. $\sqrt{3} \cdot \sqrt{3}$

IF

Box 2

Checking: p.3-4

Estimate. (no calculator)	Mental Math
$\sqrt{103}$ $\sqrt{100}$ $\sqrt{121}$ 10 10.2 10.1 11 $-\sqrt{49}$ -7 $-\sqrt{55}$ 6 -7.3 -7.4 $-\sqrt{64}$ 9 -8	$\sqrt{\frac{16}{36}} = \frac{4}{6} = \frac{2}{3}$ $\sqrt{3600}$ 60

p.3 answers

1. 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225

2. 4	3. 7	4. -15	5. $\frac{2}{5}$
6. 9 and 10	7. -2 and -3	8. 4 and 5	9. -10 and -11
10. ≈ 7.4 or 7.3	11. ≈ -7.9 or -7.8	12. ≈ 6.1	13. ≈ 10.2 or 10.1
14. 11 ft		15. ≈ 31.6 m	
16. ≈ 3.2 m or 3.1 m		17. ≈ 12.2 m or 12.3 m	

p.4 answers

It grew perfect square roots.

Unit 5: Number Operations & Pythagorean Theorem ***Name:*** _____ _____ ***Hour:*** ___

pg. #	Learning Targets	CW (teacher sign)	Practice assignment	Practice assignment (teacher sign)	Understanding?
1-4	**1a.** I can estimate square roots. **1b.** I can graph a square root on a number line.		3-4		
	1c. I can simplify square root expressions.				
5-7	**2a.** I can determine if a number is rational or irrational **2b.** I can classify the sum and product of rational and irrational numbers.		7		
	3. I can *simplify* expressions containing grouping symbols (radicals, fraction bars, and absolute value).				
	4. I can *solve* equations containing radicals and fraction bars.				
	5a. I can determine types of triangles by using their side lengths.				
day 1	**5b.** I can use the Pythagorean theorem to solve for an unknown side length.				
day 2					
	5c. I can calculate the distance between two points using the Pythagorean theorem.				
	6. I can calculate the distance between two points using the distance formula.				

LT 2ab:
I can determine if a number is rational or irrational.
I can classify the sum and product of rational and irrational numbers.

Define: **Rational Number**

A number that can be written in the form $\frac{a}{b}$, where a and b are integers and $b \neq 0$.

1) All fractions are Rational
2) All decimals that terminate are Rational
3) All decimals that repeat are Rational

examples: $\frac{4}{3}$ $-1\frac{3}{5}$ -0.12 $-0.2\overline{3}$ 10 $\sqrt{144}$ $\sqrt{9}$ $\sqrt{0}$ $\sqrt{100}$ $\sqrt{144^2}$ $\sqrt{25}$ $\sqrt{225}$

Define: **Irrational Number**

A number that **cannot** be written as the (quotient of two integers) fraction

1) A decimal that goes on forever with NO pattern
2) All other #'s that don't satisfy rational # rules.

examples: π $\sqrt{10} \approx 3.1\ldots\ldots$ $\sqrt{24}$ $-\sqrt{45}$ $\sqrt{3}$ $\sqrt{99}$

Identify each number as rational or irrational.

1. $\sqrt{196}$	2. $-\sqrt{121}$	3. $\frac{1}{7}$	4. $-\sqrt{45}$ I	5. $\sqrt{\frac{4}{25}}$
6. $-1\frac{1}{2}$	7. $\sqrt{23}$ I	8. 0.75	9. $\sqrt{0}$	10. $4.\overline{2}$

Classify sums:

Rational + Rational = Rat.

$\sqrt{16} + \sqrt{4} = 6$ $1.\overline{3} + \sqrt{25} = 6.\overline{3}$

Irrational + Irrational = IRR

USE CALCULATOR

$\sqrt{10} + \sqrt{3} \approx 4.89\ldots\ldots$

Rational + Irrational = Irr

$\sqrt{25} + \sqrt{2} \approx 6\ldots\ldots\ldots$

Classify Products:

Rational * Rational = Rat

$\sqrt{9} \cdot \sqrt{4} = 6$

Irrational * Irrational = IRR or R

USE CALCULATOR

$\sqrt{3} \cdot \sqrt{10} \approx$ IRR

$\sqrt{10} \cdot \sqrt{10} = 10$ RAT

Rational * Irrational = IRR

$\sqrt{9} \cdot \sqrt{3} =$ IRR

Does not equal 0.

You try: Simplify and classify each expression as r

1. $2(\frac{1}{5})$ (R)
2. $\sqrt{6} \cdot \sqrt{3}$
3. $\sqrt{3} \cdot \sqrt{12}$ $\sqrt{36} = 6$ (R)
4. $5(\sqrt{2})$
5. $\sqrt{7} + \sqrt{7}$
6. $5 + \sqrt{12}$

Summary:

Rational	Irrational
☆ fractions	# no pattern
☆ $\sqrt{\text{perf. \#}}$	$\sqrt{\text{non-perf. \#}}$
# end # repeat	

CW **p.7** (card sort)

P **p.7** (all)

2:48:

SHOW WORK!

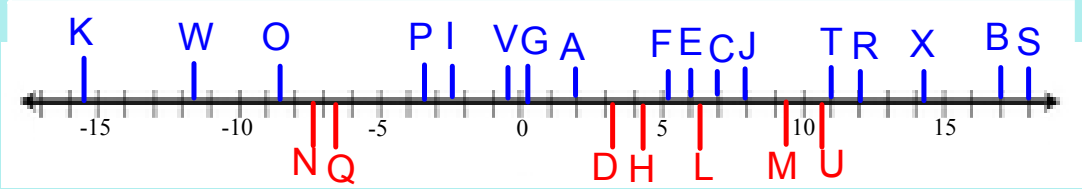
Irrational

p.7 answers

Rational

Irrational

D, H, L, M, N, Q, U



1. R	2. Irr
3. Irr	4. R
5. R	6. R
7. Irr	8. R