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Unit 7.2, Lesson 6: Two and Two Name _____

Activity 1: Jayden's Cooler (Partner A)

It took Jayden 5 minutes to fill a cooler with 8 gallons of water from a faucet that was flowing at a steady rate. Complete the table using this fact.

Time in Minutes (t)	**Gallons of Water** (w)
0	0
1	
2.5	
5	
t	

1. What is the constant of proportionality?

2. Write an equation for the proportional relationship.

---

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Unit 7.2, Lesson 6: Two and Two Name _____

Activity 1: Jayden's Cooler (Partner B)

It took Jayden 5 minutes to fill a cooler with 8 gallons of water from a faucet that was flowing at a steady rate. Complete the table using this fact.

Gallons of Water (w)	**Time in Minutes** (t)
0	0
1	
4	
8	
w	

1. What is the constant of proportionality?

2. Write an equation for the proportional relationship.

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Unit 7.2, Lesson 6: Two and Two Name _____

Activity 1: Jayden's Cooler (Partner A)

3. What is the relationship between the constants of proportionality that you and your partner found?

4. What does $\frac{5}{8}$ tell you about the situation?

5. What does $\frac{8}{5}$ tell you about the situation?

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Unit 7.2, Lesson 6: Two and Two Name _____

Activity 1: Jayden's Cooler (Partner B)

3. What is the relationship between the constants of proportionality that you and your partner found?

4. What does $\frac{5}{8}$ tell you about the situation?

5. What does $\frac{8}{5}$ tell you about the situation?

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Unit 7.2, Lesson 6: Two and Two Name _____

Lesson Synthesis

Some of the proportional relationships that we examined in this lesson are represented below.

Situation	There are 100 centimeters, y, in every meter, x.	It took Jayden 5 minutes, t, to fill a cooler with 8 gallons of water, w, at a steady rate.
Constants of Proportionality	100, $\frac{1}{100}$	$\frac{5}{8}$, $\frac{8}{5}$
Equations	$y = 100x$, $x = \frac{1}{100}\ y$	$w = \frac{8}{5}\ t$, $t = \frac{5}{8}\ w$

1. In each situation, what is the relationship between the two constants of proportionality?

2. In each situation, what is the relationship between the two equations?

Cool-Down

An albatross is a large bird that can fly 400 kilometers in 8 hours at a constant speed.

1. What are two constants of proportionality for the relationship between distance in kilometers, d, and number of hours, t?

2. Write two equations that relate d and t in this situation.

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Unit 7.2, Lesson 7: Supplement Name _____

1.a Use the information provided to fill in the missing information.

Story	**Table**	**Is it proportional?**
Lucia earns $\$12$ per hour.		
Equation		**Explain how you know.**

Hours (x)	**Pay** (y)
0	
1	
	30

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Unit 7.2, Lesson 7: Supplement Name _____

1.b Use the information provided to fill in the missing information.

Story	**Table**	**Is it proportional?**
The recipe calls for 1 banana for every 2 smoothies.		
Equation		**Explain how you know.**

Smoothies (x)	**Bananas** (y)
0	0
1	
	2.5

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Unit 7.2, Lesson 7: Supplement Name _____

2.a Use the information provided to fill in the missing information.

Story	**Table**	**Is it proportional?**
The cell phone costs $\$500$, plus $\$35$ per month for the plan.		
Equation		**Explain how you know.**

Months (x)	**Total Cost** (y)
0	
1	
	605

---

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Unit 7.2, Lesson 7: Supplement Name _____

2.b Use the information provided to fill in the missing information.

Story	**Table**	**Is it proportional?**
The area of a square is the side length multiplied by itself.		
Equation		**Explain how you know.**

Side Length (x)	**Area** (y)
0	
1	
	100

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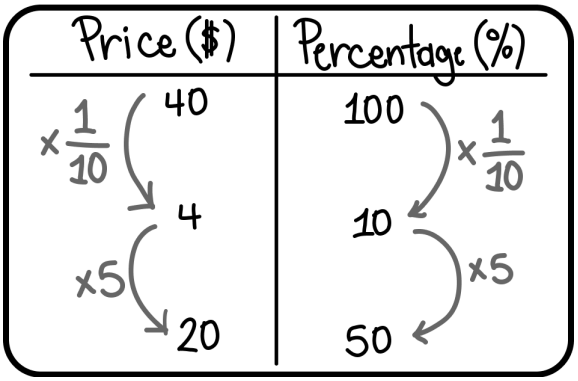
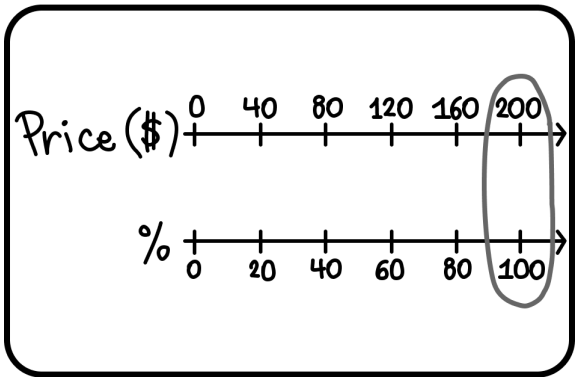
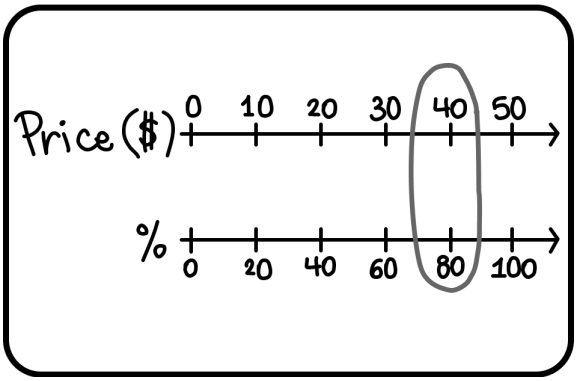
Unit 6.3, Lesson 10: Cards

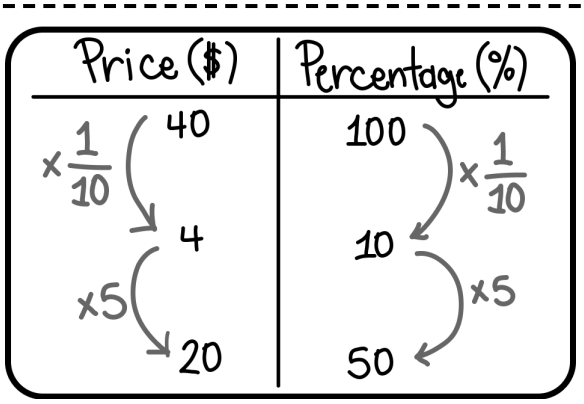


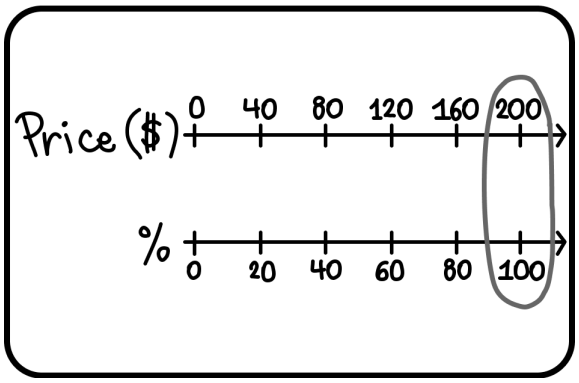


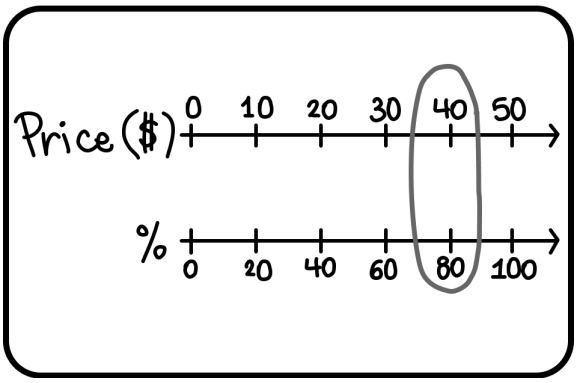


50%

$8.00







50%

$8.00

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Unit 6.3, Lesson 10: What's Missing? Name _____

Activity 1: What's Missing?

	Question	Representation	Solution
1	I have a 40% off coupon. If I buy a shirt with a regular price of $\$20$, how much money would I save?		
2	I have a 20% off coupon. If I use the coupon, I will save $\$40$. What is the regular price of this shirt?		
3	I paid $\$40$ for a jacket whose regular price is $\$50$. What percent of the regular price did I pay?		
4			

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Unit 6.3, Lesson 10: What's Missing?

Activity 2: Sale Price and Regular Price

	Question	Representation	Solution
5	Eliza bought a hat for $\$21$. The regular price is $\$30$. What percent of the regular price did she pay?		
6	A discount store sells items at 80% of the regular prices. If the regular price of pants is $\$55$, what is the sale price?		
7	A discount store sells items at 80% of the regular price. If the sale price of sneakers is $\$96$, what is the regular price?		

Are You Ready for More?

Precious's Bicycle Distance Goals

Day	Su	M	Tu	W	Th	F	Sa
Goal (km)	0	8	4	10	0	8	20

Precious biked 125% of her daily goal on Monday.

What percent of her total weekly goal did she bike on Monday?

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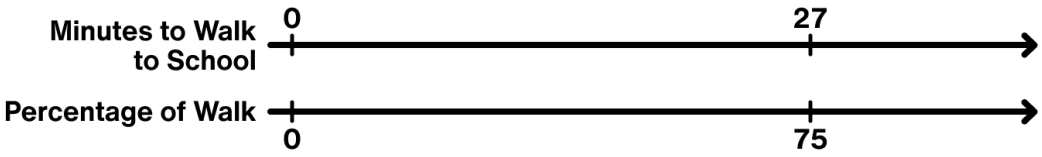
Unit 6.3, Lesson 10: What's Missing?

Lesson Synthesis

Explain how this double number line can help you figure out the total time Eliza takes to walk to school.

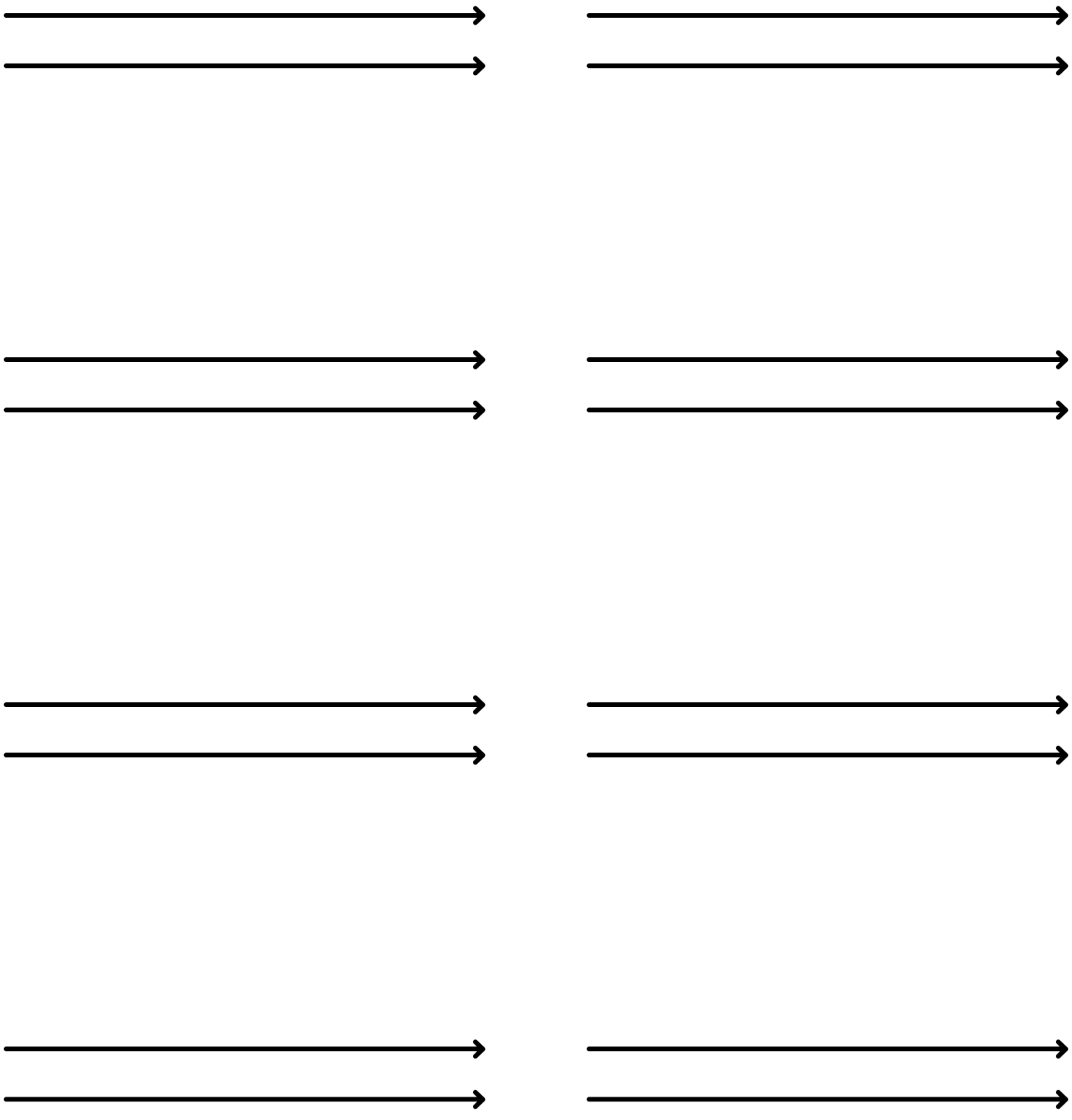


Cool-Down

It takes Emiliano 20 minutes to walk 80% of the way to school.

How long does it take in total for Emiliano to walk to school?

Double Number Lines



Tables

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Unit 7.4, Lesson 12: Supplement Name(s) _____

Information Sheet

Wage Gap

The average White man in America earned $\$60\,388$ in 2017 and $\$58\,879$ in 2000.

In America between 2000 and 2017, Black women's earnings increased by 2.57% on average to $\$36\,735$.

In 2017, the average White woman in America earned about 23% less than the average White man.

In 2000, the average White woman in America earned $\$42\,591$.

Compared to the average White man, the average Black man in America earned 27% less in 2000 and 30.3% less in 2017.

Prison Populations

In 2018, the prison population of India was about $466\,000$. In 1986, the prision population was 64% less than that.

China's population is currently 1.4 billion people, closely followed by India with 1.3 billion. Together, they make up 37% of the world's population.

Between 1986 and 2018, China's prison population increased from about 1.2 million to 1.71 million.

There are about 328.2 million people living in the United States.

In 1986, the U.S. prison population was about $546\,600$. By 2018, the U.S. prison population had increased by 321%.

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Unit 7.4, Lesson 12: Supplement Name(s) _____

Activity 1: Stronger and Clearer Each Time

Select the topic that interests you. Then, write two questions about the topic that you could figure out using this information and whose answer is not already given.

As you are drafting questions, ask yourself:

- *Would the answer to this question be interesting or useful?*
- *Can you answer this question using only the information given?*
- *Is the answer to the question not obvious from the information?*

First Draft of Both Questions	
Conversation Notes #1	**Conversation Notes #2**
Final Version of Both Questions	

Activity 2: Make a Poster

Create a poster. Here is what your poster should include:

- ☐ A descriptive title.
- ☐ The two questions you asked.
- ☐ At least one representation of the situation (tape diagram, double number line, table, equation).
- ☐ Your answers to each question (with units).
- ☐ An explanation of how you calculated each answer.
- ☐ Two new questions that you have about this topic after analyzing the data.

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Unit 6.7, Lesson 3: Number Cards

$\frac{1}{7}$	$-\frac{1}{7}$
1	-1
$+\ 9.2$	-9.2
$\frac{2}{5}$	-0.4

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Unit 6.7, Lesson 3: Number Cards

$\frac{6}{7}$	$-\frac{6}{7}$
9.02	-9.02
$+\ 5$	-5
$+\ 1.25$	$-\frac{5}{4}$

desmos

Unit 6.7, Lesson 3: Number Cards

$2\frac{2}{3}$	$-\frac{8}{3}$
$+2$	-2
$+1.5$	$-1\frac{1}{2}$
2.5	$-2\frac{1}{2}$

desmos

Unit 6.7, Lesson 3: Number Cards

$+ 2.01$	$- 2.01$
3	-3
$\frac{1}{3}$	$-\frac{1}{3}$
2.10	-2.10

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Unit 6.7, Lesson 3: Order in the Class Name _____

Activity 1: Greater Than?

My number: _____

Round 1

_____'s number: _____ _____ is greater than _____. _____ > _____
(Name)

Round 2

_____'s number: _____ _____ is greater than _____. _____ > _____
(Name)

Round 3

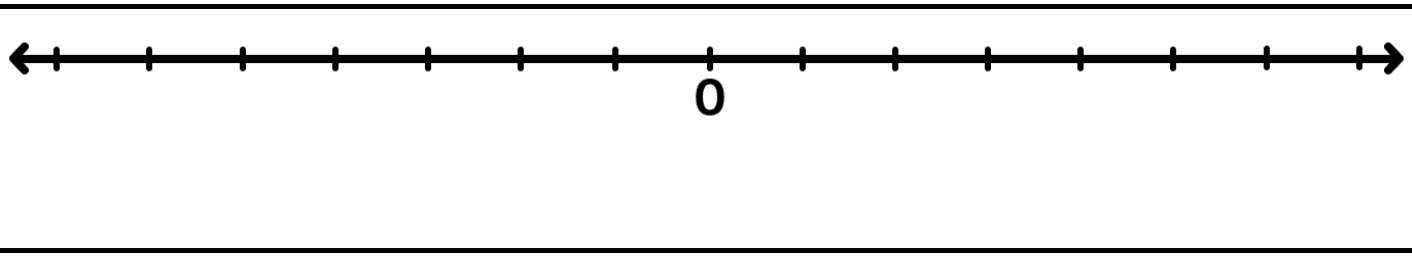
_____'s number: _____ _____ is greater than _____. _____ > _____
(Name)

Activity 2: Least to Greatest

Round 4

_____ < _____ _____ > _____ _____ < _____

Round 5



Round 6

Least _____ _____ _____ _____ **Greatest**

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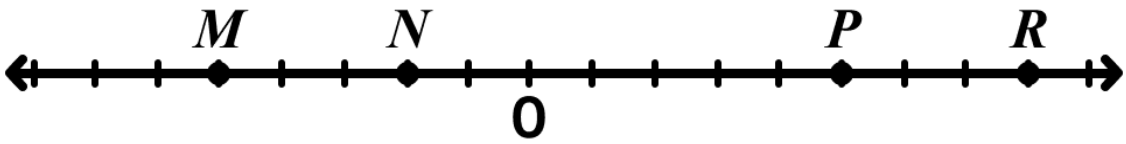
Unit 6.7, Lesson 3: Order in the Class Name _____

Lesson Synthesis

Use the number line to complete each sentence.



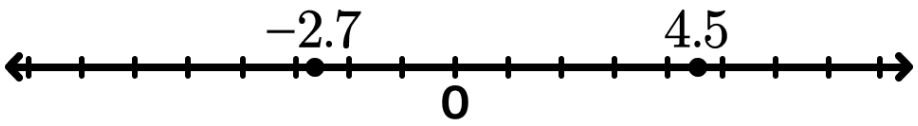
1. ____ is the opposite of ____ because . . .

2. ____ is greater than ____ because . . .

3. ____ is the least of the numbers because . . .

Cool-Down

1. Write a sentence comparing the two numbers shown on the number line.



2. Order these numbers from least to greatest.

-3 3.1 -2.5 2.5 $\frac{1}{4}$

Least _____ _____ _____ _____ _____ **Greatest**

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Unit 7.5, Lesson 10: Integer Puzzles (Supplement) Name(s) _____

Puzzle Workspace

Use this space to record all of your attempts and thinking as you work on each puzzle.
After each attempt, consider what you learned and how your strategy might change on the next attempt.

Puzzle #1

Puzzle #2

Reflection on Puzzles 1 and 2

Use this space to record things you learned while solving these puzzles, including advice to yourself or others.

Puzzle Workspace Continued

Puzzle #3

Puzzle #4

Are You Ready for More?

Reflection on Puzzles 3 and 4

Use this space to record things you learned while solving these puzzles, including advice to yourself or others.

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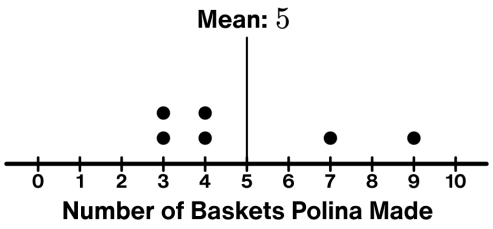
Unit 6.8, Lesson 9: Supplement Name _____

Polina's Data

Number of Baskets	3	3	4	4	7	9
Absolute Deviation (distance from __5__ mean)	2	2	1	1	2	4



Mean Absolute Deviation (MAD)

Sum of absolute deviations:

2 + 2 + 1 + 1 + 2 + 4 = 12

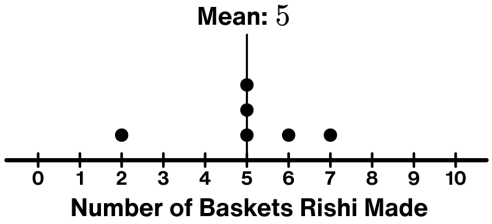
Average or mean of the absolute deviations:

12 ÷ 6 = 2

Rishi's Data

Number of Baskets	2	5	5	5	6	7
Absolute Deviation (distance from _____ mean)						

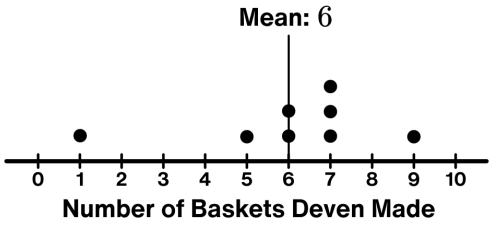
Mean Absolute Deviation (MAD)



Deven's Data

Number of Baskets	1	5	6	6	7	7	7	9
Absolute Deviation (distance from _____ mean)								

Mean Absolute Deviation (MAD)



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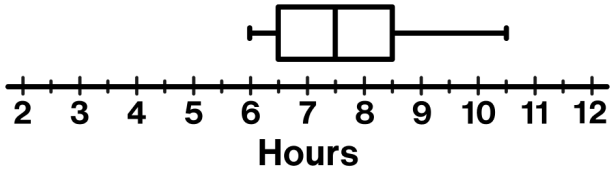
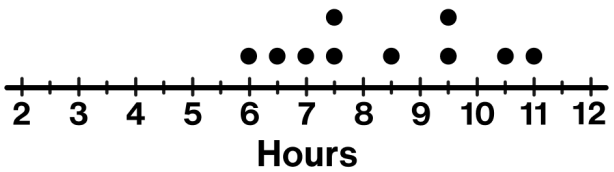
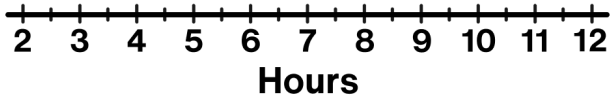
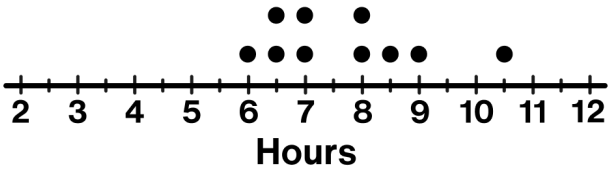
Unit 6.8, Lesson 14: Cards







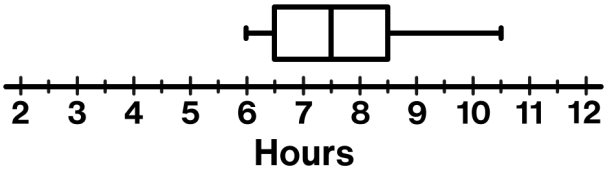


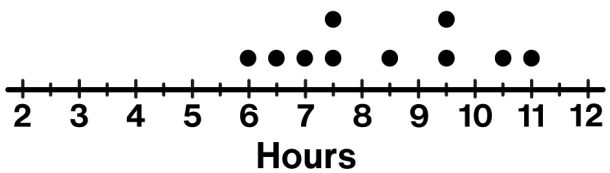
4.5 hours

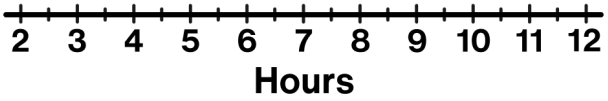
5 hours

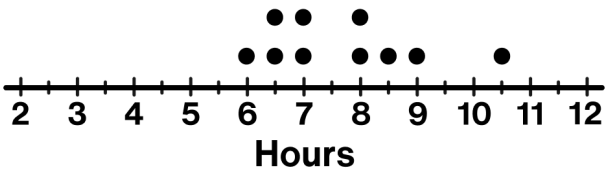
7.5 hours

2.5 hours









4.5 hours

5 hours

7.5 hours

2.5 hours

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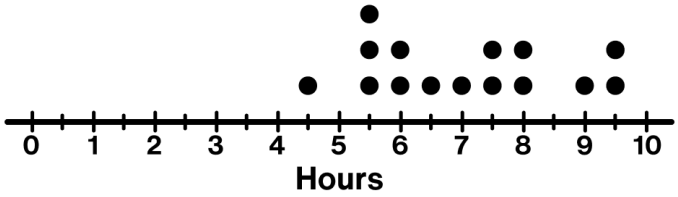
Unit 6.8, Lesson 14: Car, Plane, Bus, or Train? Name _____

Warm-Up

Jalen recorded how long it took to drive from St. Louis to Chicago the last 15 times his family went.

1. Determine Q1, Q2, and Q3. Label them on the dot plot.

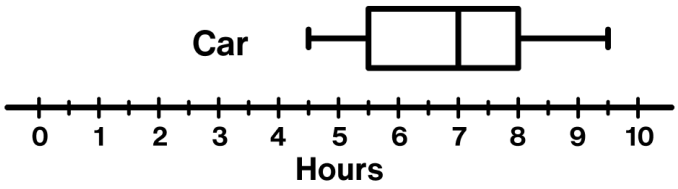


Your teacher will show you an animation.

2.1 Discuss with a partner: *What do you notice? What do you wonder?*

2.2 Label each of these words on the box plot.

- ☐ Minimum (Min.)
- ☐ Quartile 1 (Q1)
- ☐ Quartile 2 (Q2)
- ☐ Quartile 3 (Q3)
- ☐ Maximum (Max.)



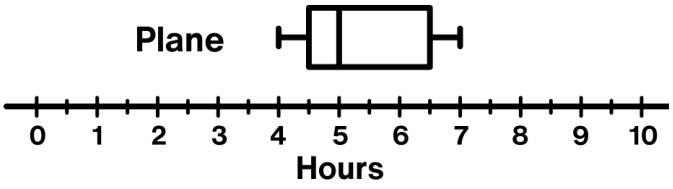
Activity 1: Car or Plane?

Jalen's family is considering going by plane for their next trip to Chicago.

Jalen's family has made the trip by plane before. Here is a box plot representing those travel times.

1. Determine each statistic for the plane data.

- Minimum: _____
- Quartile 1: _____
- Median: _____
- Quartile 3:_____
- Maximum: _____



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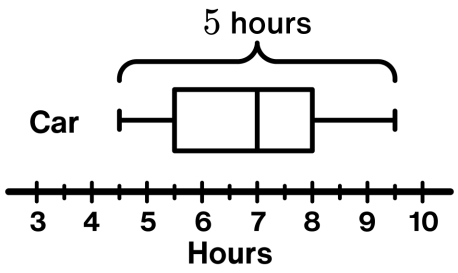
Unit 6.8, Lesson 14: Car, Plane, Bus, or Train?

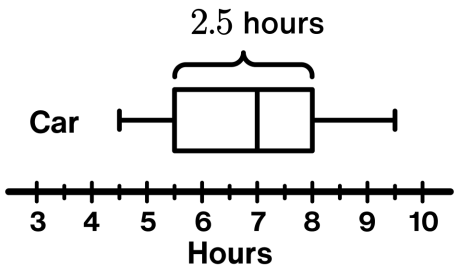
Jalen's family is interested in the spread of the data for car and plane times.

There are two ways to describe the spread of a box plot.

The *range* is the distance from the minimum to the maximum.



The *interquartile range (IQR)* is the distance from Q1 to Q3.



2. Read the definitions above.

   How are range and IQR similar?

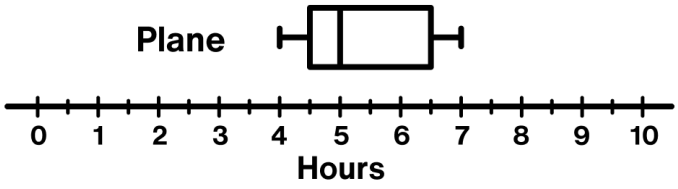
   How are they different?

3. Jalen says that one of these is like the size of the middle half.
   Which measure of spread do you think he is talking about? Explain your reasoning.

4. For the plane data, what is the:

   Range: _____

   IQR: _____



5. Based on this data, would you recommend Jalen's family go by car or by plane next time?
   Explain your reasoning.

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Unit 6.8, Lesson 14: Car, Plane, Bus, or Train?

Activity 2: Bus or Train?

1. Jalen's family has also gone to Chicago by bus and by train. Help them complete the table.

	Bus	Train
Travel Times (hours)	7.5, 10.5, 9.5, 9.5, 6 7, 6.5, 7.5, 11, 8.5	6.5, 8.5, 6, 10.5, 6.5 8, 7, 7, 9, 8
Dot Plot		
Box Plot		
Median		
IQR		
Range		

2. Which mode of transportation (car, train, bus, plane) would you recommend for Jalen's family? Use evidence to support your argument.

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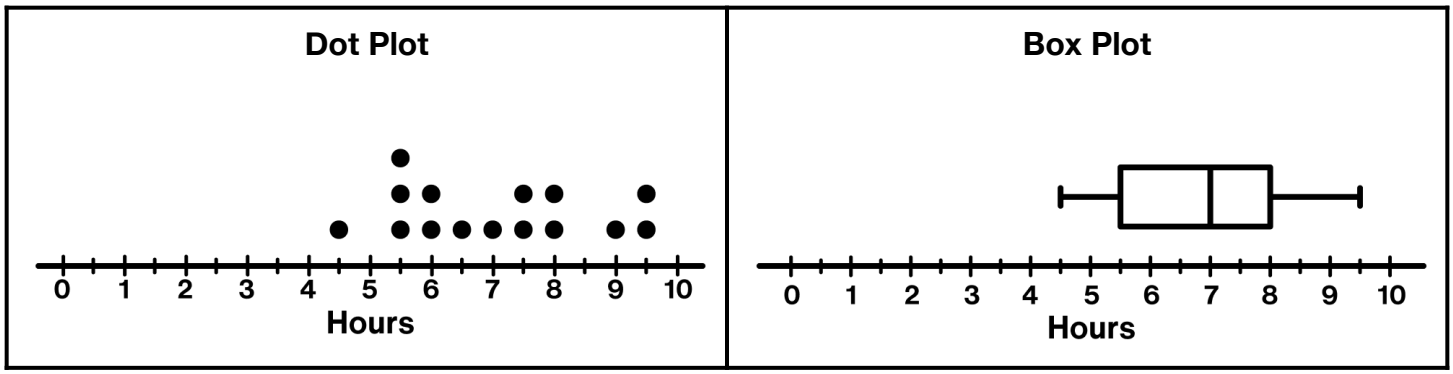
Unit 6.8, Lesson 14: Car, Plane, Bus, or Train?

Lesson Synthesis

Here is a dot plot and a box plot of Jalen's data for traveling by car.



Which (**dot plot** or **box plot**) would you use to determine:

The median? The number of data points? The range? The IQR?

Cool-Down

Inola took the bus to school most days in January.

She wrote down how many minutes it took to get to school each day and made a box plot.

For this data, what is the:

- Median: _____
- IQR: _____
- Range: _____