

# Keystone Algebra 1

*Rolando's Driving*

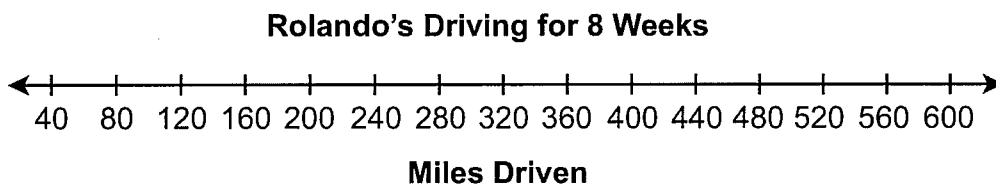
Handscoring  
Anchor Set

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## PA Keystone Algebra 1: Rolando's Driving

15. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in **part A**.

## PA Keystone Algebra 1: Rolando's Driving

15. **Continued.** Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

PA Keystone Algebra 1  
Renaldo's Driving

**Assessment Anchor this item will be reported under:**

**A1.1.3 Linear Inequalities**

**Specific Eligible Content addressed by this item:**

**A1.1.3.1.1** Write or solve compound inequalities and/or graph their solution sets on a number line (may include absolute value inequalities).

**Scoring Guide:**

Score	In this item, the student –
4	Demonstrates a thorough understanding of writing compound inequalities and graphing their solution sets on a number line by correctly solving problems and clearly explaining procedures.
3	Demonstrates a general understanding of writing compound inequalities and graphing their solution sets on a number line by correctly solving problems and clearly explaining procedures with only minor errors or omissions.
2	Demonstrates a partial understanding of writing compound inequalities and graphing their solution sets on a number line by correctly performing a significant portion of the required task.
1	Demonstrates minimal understanding of writing compound inequalities and graphing their solution sets on a number line.
0	The response has no correct answer and insufficient evidence to demonstrate any understanding of the mathematical concepts and procedures as required by the task. Response may show only information copied from the question.
Non-scorables	B – Blank, entirely erased or written refusal to respond F – Foreign Language K – Off-task U – Unreadable

**Top Scoring Student Response And Training Notes:**

Score	Description
4	Student earns 4 points.
3	Student earns 3.0 – 3.5 points.
2	Student earns 2.0 – 2.5 points.
1	Student earns 0.5 - 1.5 points. OR Student demonstrates minimal understanding of writing compound inequalities and graphing their solution sets on a number line.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.

# PA Keystone Algebra 1: Rolando's Driving

A.

What?	Why?
<p style="text-align: center;"><b>Rolando's Driving for 8 Weeks</b></p> <p style="text-align: center;"><b>Miles Driven</b></p>	

(1 score point)

1 point for correct answer

OR ½ point for correct endpoints

B.

What?	Why?
	<p>I chose a solid (closed) circle at 320 since Rolando would drive greater than or equal to <math>8 \times 40 = 320</math> miles. I chose an open circle at 480 since Rolando would drive less than, but not equal to, <math>8 \times 60 = 480</math> miles.</p> <p><b>OR equivalent</b></p>

(1 score point)

1 point for complete explanation

OR ½ point for correct but incomplete explanation

C.

What?	Why?
$20.40 \leq m \leq 29.15$ <b>OR equivalent</b>	<p>Minimum: 8.5 gallons <math>\times</math> \$2.40 per gallon = \$20.40  Maximum: 11 gallons <math>\times</math> \$2.65 per gallon = \$29.15  OR  The least amount Rolando could pay for gas is when he buys 8.5 gallons at \$2.40 per gallon, which is \$20.40. The greatest amount Rolando could pay for gas is when he buys 11 gallons at \$2.65 per gallon, which is \$29.15. Since Rolando could pay either of these amounts, I used the less than or equal to symbols.</p> <p><b>OR equivalent</b></p>

(2 score points)

1 point for correct answer

OR ½ point for partially correct answer (1 calculation error or 1 sign error)

1 point for complete support

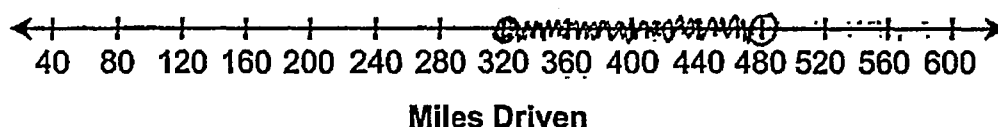
OR ½ point for correct but incomplete support

16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.

$$\begin{aligned} x &\geq 320 & x &< 480 \\ x &\geq 320 & x &< 480 \end{aligned}$$

Rolando's Driving for 8 Weeks



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I chose to use a closed dot for the equation  $x \geq 320$  because of the in equality sign. If the sign has a line underneath the graph needs a closed dot. I used an open dot for the second equation because the inequality sign has no line under it.  $< \text{ or } > = \circ$   
 $\geq \text{ or } \leq = \bullet$

4

A. 1 point – correct answer. The graph has *appropriate endpoints* (closed dot, open dot) at the *correct places* (320, 480) with a *line between them*.

B. 1 point – complete explanation of the *symbols* that are *appropriately used for the corresponding endpoints*. The *closed dot* is clearly associated with the “40/320” end of the inequality and the *open dot* is clearly associated with the “60/480” end of the inequality. Consider “equation” a blemish.

C. 2 point – correct answer and complete support (“2.65 • 11” and “2.40 • 8.5” or equivalent is sufficient support). Note that a variable other than  $m$  is acceptable in the inequality.

16. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$2.65 \cdot 11 \geq x \geq 2.40 \cdot 8.5$$

$$29.15 \geq x \geq 20.4$$

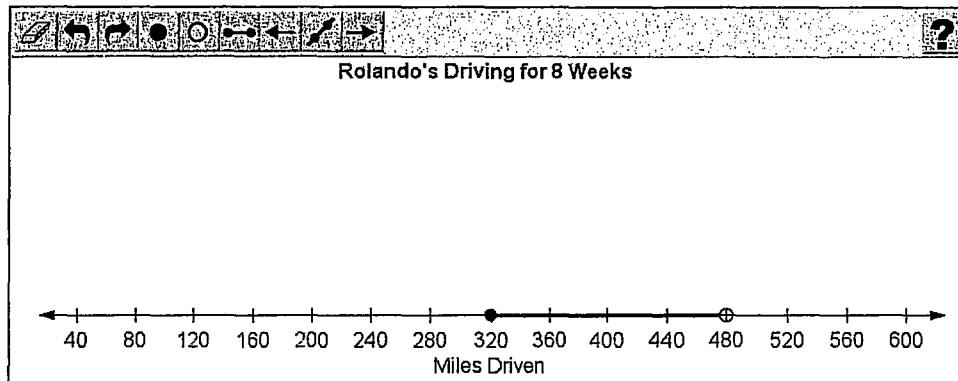


# PA Keystone Algebra 1: Rolando's Driving, Anchor Set

A-2

Rolando drives at least 40 miles but less than 60 miles each week.

A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

If Rolando drives at least forty miles he could drive forty miles or more. Therefore he can drive forty miles so that point should be included using a colored point. However, if Rolando drive over forty miles but less than sixty he could drive any number of miles in between but not sixty. If Rolando does not drive sixty miles this point should not be included, therefore a white dot should be used.

400 / 1000

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$m \geq 20.4$  and  $m \leq 29.15$   
 $8.5 \times 2.40 = 20.4$  is the least amount of money Rolando would spend.  
 $11 \times 2.65 = 29.15$  is the most amount of money Rolando would spend.

144 / 1000

4

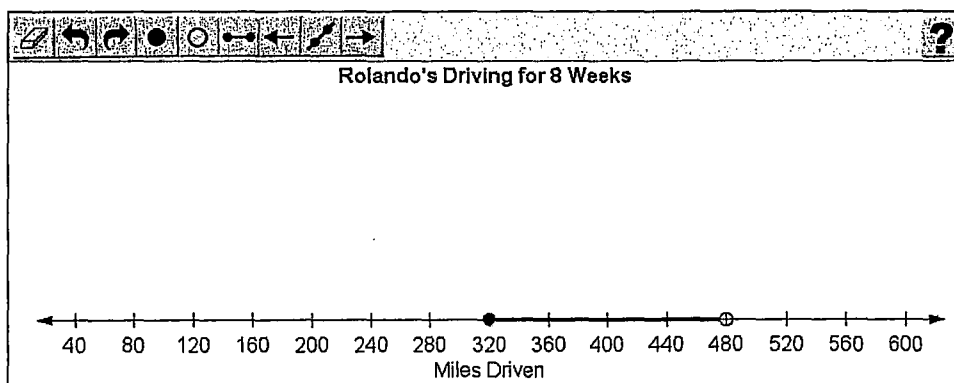
A. 1 point – correct answer.

B. 1 point – complete explanation (*colored point* and *white dot* appropriately associated with the corresponding endpoints). Note that it is OK to *correctly* use 40 and 60 instead of 320 and 480.

C. 2 points – correct answer and complete support. Note that “and” is required for this inequality to be correct.

Rolando drives at least 40 miles but less than 60 miles each week.

A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in **part A**.

I chose to use the colored in circle at the 320 mile mark because the problem said that he drove at least 40 miles a week for 8 weeks. This means that Rolando drove 320 miles or more during an 8 week time period. A colored in circle is what would represent that. On the other hand, I used an open circle at the 480 mile mark. The problem said that he drove less than 60 miles a week for 8 weeks. This means that he couldn't have driven 480 miles in 8 weeks, only less than that. The open circle would represent that.

516 / 1000

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$8.5 \times 2.40 \leq 11 \times 2.65$   
I wrote this inequality because it shows all the possible amounts of money he spends on gas each week. 8.5 times 2.40 would be the least amount of gas he could get for the least amount of money. 11 times 2.65 is the most amount of gas he could get for the most amount of money. Therefore, he could spend anywhere between 8.5 times 2.40 and 11 times 2.65 on gas.

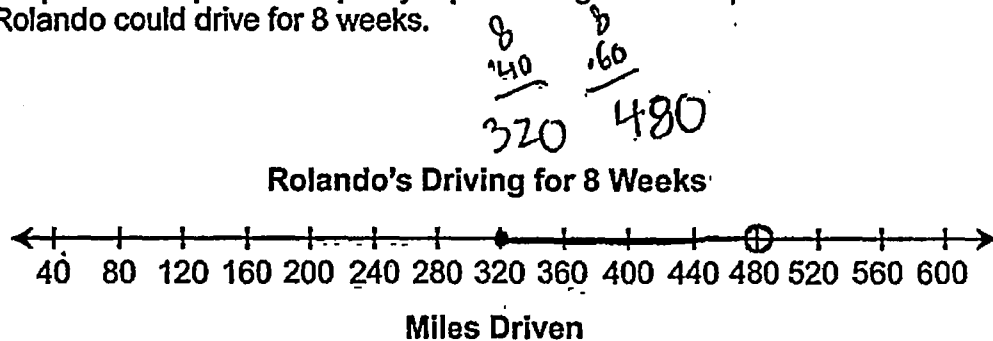
379 / 1000

3

- A. 1 point – correct answer.
- B. 1 point – complete explanation (*colored in circle* and *open circle*).
- C. 1 point – incorrect answer (no variable in the inequality), complete support. Note that *either* the work *or* the explanation is complete; both are not required.

16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



$$x \geq 320 \quad x < 480$$

- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

In the given information (at least 40 miles) it suggests the amount is greater than or equal to and when graphed, that symbol is a "o". The information also stated that he drove "less than 60 miles", less than meaning any number below the specified number. The symbol to incorporate less than is "<", when graphed.

3

- A. 1 point – correct answer.  
 B. 1 point – complete explanation (even though "<" appears to be open, the student has clearly delineated it from the open circle used, "o").  
 C. 1 point – incorrect answer (missing "and" is not considered partially correct), complete support.

16. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$x$  to represent gallons purchased

buys at least 8.5 gallons  
represented by  $\rightarrow x \geq 8.5$

but no more than 11 gallons  
represented by  $\rightarrow x \leq 11$

$x \geq 8.5$  but,  $x \leq 11$

$m$  to represent possible amounts of money

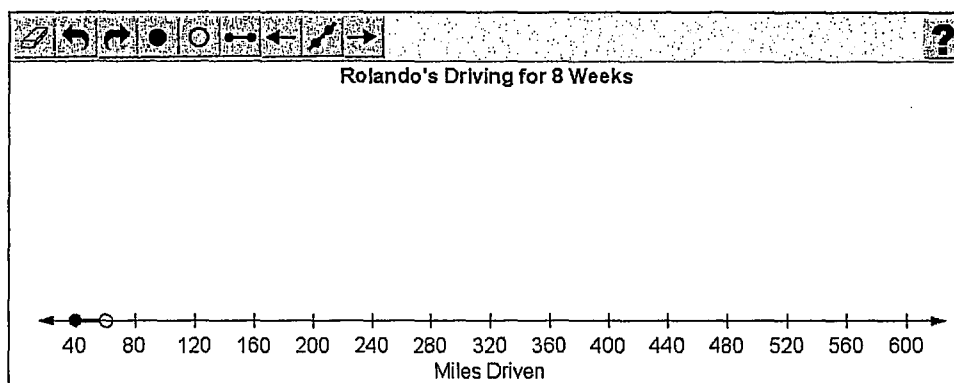
Ranges:  
 $\$2.40 - 2.65$

$m \geq (\overset{\text{lowest cost}}{2.40} \cdot \overset{\text{lowest amount}}{8.5})$      $m \leq (\overset{\text{highest cost}}{2.65} \cdot \overset{\text{highest amount}}{11})$

$m \geq \$20.40$      $m \leq \$29.15$

Rolando drives at least 40 miles but less than 60 miles each week.

A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in **part A**.

I choose to put a solid dot on the 40 because he drives at least 40 miles. Because it is "at least," he can drive exactly 40 miles. The sign would be greater than or equal to. I put an empty dot on the 60 because he drives "less" than 60 miles each week. Since it is less than, he cannot drive exactly 60 miles. The sign would be less than.

341 / 1000

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$\begin{aligned} (\text{gallons} \times \text{price}) &\leq x < (\text{gallons} \times \text{price}) \\ (8.5 \times 2.40) &\leq x < (11 \times 2.65) \\ 20.4 &\leq x < 29.15 \end{aligned}$$

76 / 1000

2

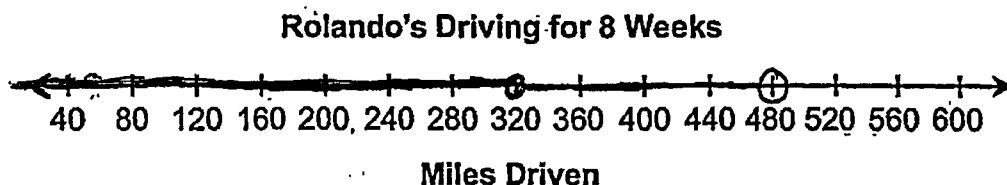
A. 0 points – incorrect answer. Note that the only partial credit available for the graph is for correct endpoints (320 and 480).

B. 1 point – complete explanation (*solid dot* and *empty dot* at 40 and 60, the endpoints used in part A).

C. 1.5 points – partially correct answer (one sign error, “<” instead of “≤”), complete support.

16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



$$8(40 \leq x < 60) \approx 320 \leq x < 480$$

- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I chose to use the  $\leq$  sign because it said Rolando drives at least 40 miles a week, and at least means greater than or equal to, and  $x$  was greater than or equal to 40. Then I used the  $<$  sign because Rolando drove less than 60 miles every week. So,  $x$  had to be less than 60 miles. That is how I got  $40 \leq x < 60$ .

2

- A. 0.5 point – correct endpoints; the line is incorrectly extended below 320.  
 B. 0 points – incorrect explanation (explains “ $\leq$ ” and “ $<$ ” signs used instead of the open and closed symbols).  
 C. 2 points – correct answer and complete support.

16. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$8.5 \leq g \leq 11 \text{ (gallons per week)}$$

$$\$2.40 \leq p \leq \$2.65 \text{ (price per gallon)}$$

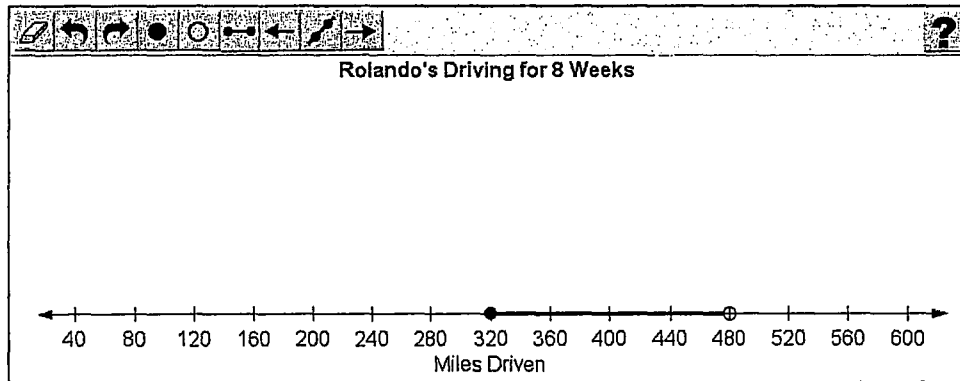
$$(8.5)(\$2.40) = \$20.40 \qquad (11)(\$2.65) = \$29.15$$

$$\$20.40 \leq m \leq \$29.15 \text{ (price for gallons)}$$

$$\boxed{\$20.40 \leq m \leq \$29.15}$$

Rolando drives at least 40 miles but less than 60 miles each week.

A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in **part A**.

I used a closed dot for the  $40 \times 8 = 320$  because it said at least so it will be greater than or equal to the 320. I used a open dot for the  $60 \times 8 = 480$  because it said Rolando drives less than the 60 miles each week

247 / 1000

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$11 \times 2.65 = m$   
 $11 \times 2.40 = m$   
 $10 \times 2.65 = m$   
 $10 \times 2.40 = m$   
 $9 \times 2.65 = m$   
 $9 \times 2.40 = m$   
 $8.5 \times 2.40 = m$   
 $8.5 \times 2.65 = m$

I used the numvers 8.5 through 11 because he uses at least 8.5 gallons but at most he uses 11 gallons. I used to of each number though because there were two possible prices to use. m represents the amout of money he would spend per week with the amout of money per gallon and gallons he puts in. To figure out how many for other weeks you would just times m by how many weeks.

464 / 1000

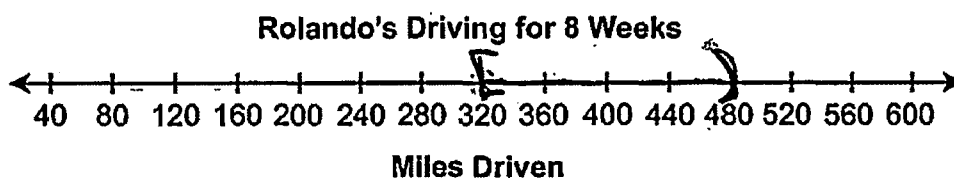
2

- A. 1 point – correct answer.  
 B. 1 point – complete explanation.  
 C. 0.5 point – no answer (inequality) is given, correct but incomplete support (extremes are not identified).



26. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I chose to put the bracket on 320 mile<sup>mark</sup> because Rolando will drive at least that. I put the parenthesis on the 480 mile mark because Rolando will never reach that point.

2

A. 1 point – correct answer, using bracket/parenthesis notation. A bracket must be used to correspond to the closed circle and a parenthesis to correspond to the open circle. The bracket and parenthesis must be going in the correct direction, as seen in this response. Note that the bracket and parenthesis are directional so a bold or shaded line may or may not be in between. Also note that if the bracket and/or parenthesis are incorrectly used, student can still potentially earn 0.5 point for correct endpoints.

B. 1 point – correct explanation.

C. 0 points – incorrect answer and incorrect support.

26. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

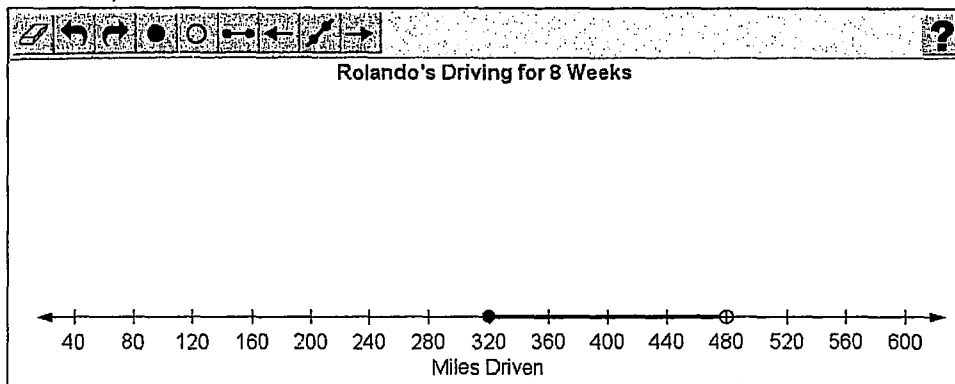
- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$8.5 \text{ gallons of gas} \leq x \leq 11 \text{ gallons of gas}$$

$$\$2.40 \leq x \leq \$2.65$$

Rolando drives at least 40 miles but less than 60 miles each week.

A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in **part A**.

At least signifies a greater than or equal sign so that would have to be a solid point. Less than means an open circle

118 / 1000

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

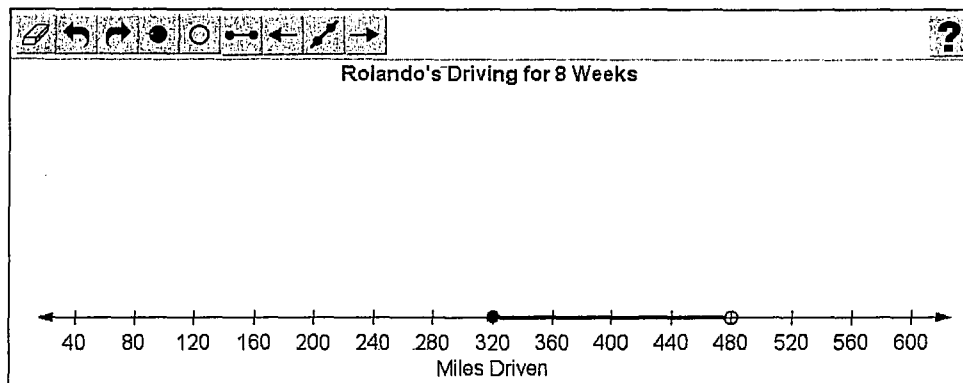
$8.5 \leq x \leq 11$   
 $2.40 \leq m \leq 2.65$

21 / 1000

- 1
- A. 1 point – correct answer.
  - B. 0.5 point – correct but incomplete explanation (“*solid point*” and “*open circle*” not clearly associated with the numbers they represent).
  - C. 0 points – incorrect answer and incorrect support.

Rolando drives at least 40 miles but less than 60 miles each week.

A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in **part A**.

EQ  
I used the closed and open dots at the ends of my line because Rolando did not drive less than 320 miles in 8 weeks and he could not have driven more than 480. Rolando could have driven 320 miles or under 480.  
211 / 1000

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

EQ  
 $m \leq 20.4$   
Rolando could spend greater than or equal to \$20.40 on gas but no more or equal to than \$29.15 on gas  
 $m \geq 29.15$   
121 / 1000

1

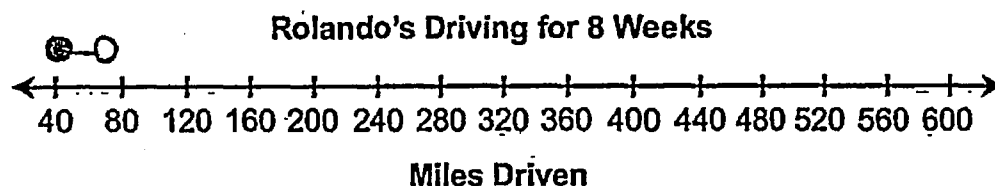
A. 1 point – correct answer.

B. 0 points – insufficient explanation for any credit. The symbols used must be *clearly* associated with the correct corresponding endpoints; in this response it is unclear which “dot” goes with which number.

C. 0 points – incorrect answer(s) and no support is given. Note that a *correct verbal* explanation of the inequality, i.e. “twenty dollars and forty cents is less than or equal to  $m$  is less than or equal to twenty-nine dollars and fifteen cents”, would be given answer credit.

16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I chose the shaded in circle,  $\bullet$ , because that represents  $\geq$  symbol which explains Rolando's miles that he "at least" drove. I chose the  $\circ$  because this symbolizes the  $< 60$ . then I connected the two dots.

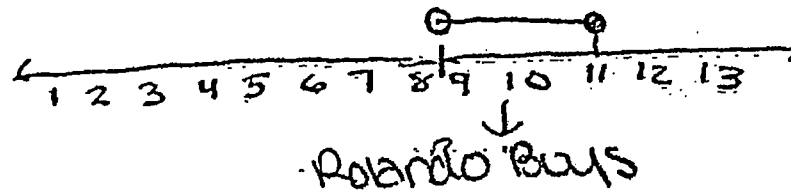
1

- A. 0 points – incorrect answer.  
 B. 0.5 point – correct but incomplete explanation ("shaded in circle" is not clearly associated with 40).  
 C. 0 points – incorrect answer and incorrect support.

16. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

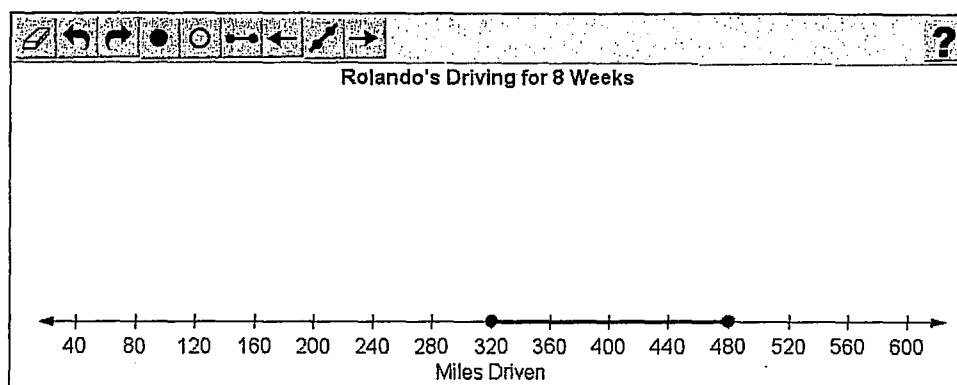
- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.



$$2.65 + 8.5m \geq 11m + 2.40$$

Rolando drives at least 40 miles but less than 60 miles each week.

A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in **part A**.

I chose the closed circle because she could drive that distance or more so it is greater than or equal to, which means I have to use the closed circle.

151 / 1000

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

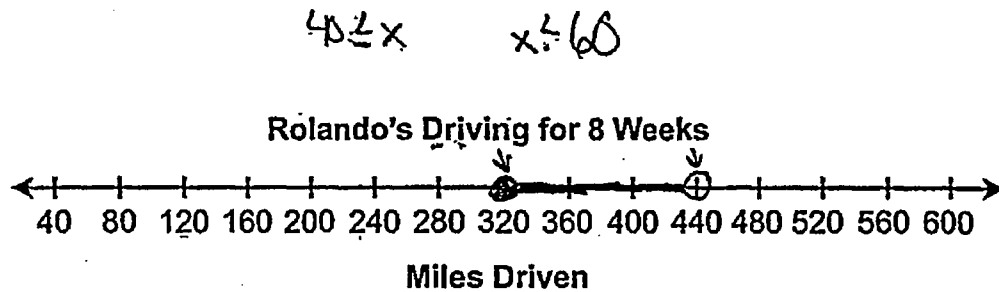
$8.5 < 11 \times 2.40 < 2.65$

18 / 1000

- 1
- A. 0.5 point – correct endpoints.
  - B. 0 points – insufficient explanation (“*closed circle*” is not clearly associated with 320).
  - C. 0 points – incorrect answer and incorrect support.

16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



$320 \leq x$        $x < 480$

- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

Well, at least would mean that it is no less than. So, when it said at least 40 miles, I know that he could drive 40 miles or more. He doesn't drive under 40 miles each week. But, he drives less than 60. That means that he doesn't drive 60 miles or over 60 miles each week. That would be why I chose the symbols  $\geq$  and  $<$ . Greater than or equal to and less than.

## Minimal 1

- A. 0 points – incorrect answer (“440” instead of “480”).  
 B. 0 points – incorrect explanation (explains the *signs*, not the open and closed symbols used for the endpoints).  
 C. 0 points – incorrect answer and incorrect support.

**MINIMAL UNDERSTANDING IS AWARDED** for showing understanding of linear inequalities in part B.



16. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

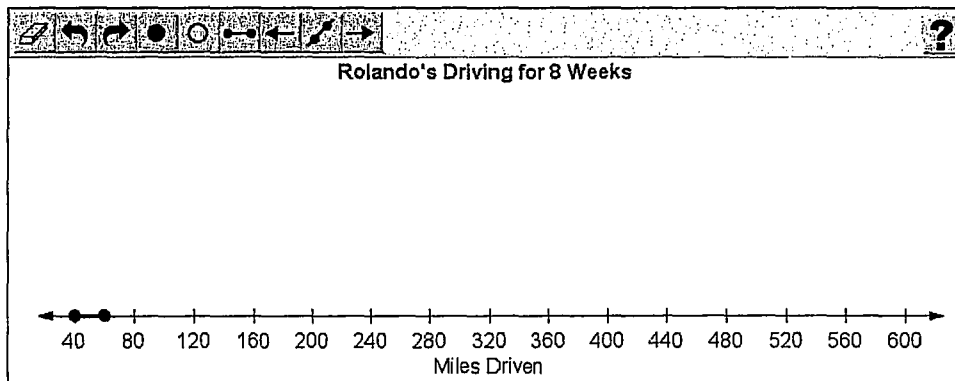
$x \geq 8.5$        $x \leq 11$   
 ↑ Combine ↑  
 less than 11  
 greater than 8.5  
 (x) in middle  
 $m = \text{money he spends on gas each week.}$

$11m \geq x \geq 8.5m$

1. First figured out that he gets at least 8.5 gallons - no less - each week. Then, he gets no more than 11. That could mean he gets 11, just no more. Then I combined my 2 equations.  $x$  always goes in the middle. You have to make sure the signs are the same as your original equations.  $m$  stands for how much money he spends. So, however many gallons he gets, he has to pay  $m$  amount of money.

Rolando drives at least 40 miles but less than 60 miles each week.

A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in **part A**.

chose this because he drove at least 40 miles a week but less than 60.

72 / 1000

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$10 \times 2.65 = \$26.50$  per week

24 / 1000

- 0
- A. 0 points – incorrect answer.
  - B. 0 points – incorrect explanation.
  - C. 0 points – incorrect answer and incorrect support.

# Keystone Algebra 1

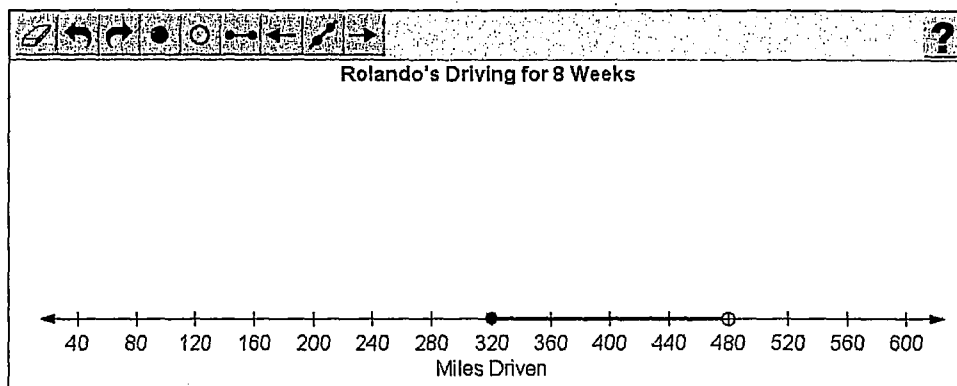
*Rolando's Driving*

Handscoring  
Training Set 1

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Rolando drives at least 40 miles but less than 60 miles each week.

A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I put a filled in point on 320 because 40 times 8 is 320, so over 8 weeks Rolando will drive at least (which is the same as greater than or equal to) 320 miles. I chose the empty point on 480 because 60 times 8 is 480, and over 8 weeks Rolando will drive less than that.

270 / 1000

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

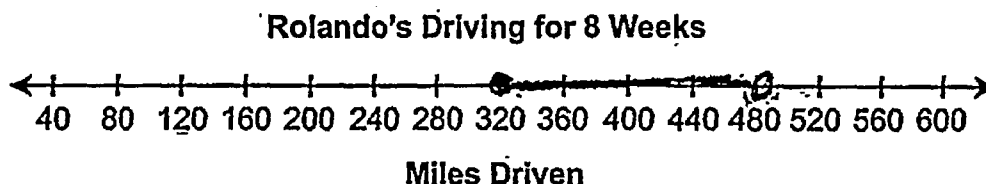
C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$\$20.4 \leq x < \$29.15$

14 / 1000

16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

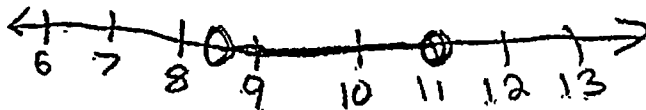
I chose to use a solid end mark for 320 because it can be either 320 or above ( $40 \geq x$ ).

I chose to use the open endpoint for 480 because it has to be lower than that number, ( $60 < x$ ).

16. *Continued.* Please refer to the previous page for task explanation.

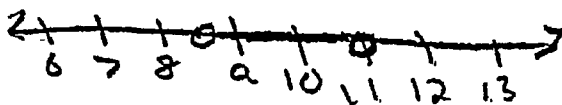
Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.



$$8.5 \leq x \leq 11$$

Since 8.5 is the lowest amount of gas he buys, the total # of gallons of gas has to be either 8.5 or higher but lower than 11 gallons.



$$\begin{array}{r} 8.50 \\ \times 2.40 \\ \hline 20.4 \end{array}$$

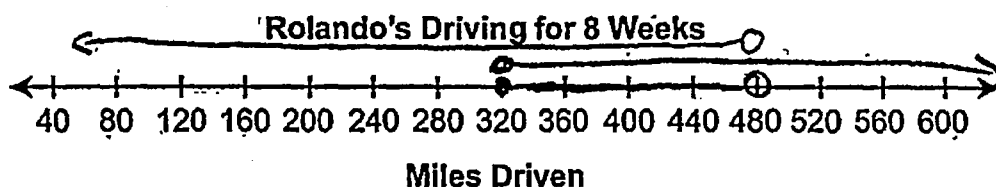
$$m =$$

$$20.4 \leq m \leq 29.15$$

Since the lowest amount is 2.40, I multiplied that times the lowest amount of gallons of gas to get the lowest amount he could spend. I did the same thing again for the highest but multiplied 11 by 2.65 to get the highest amount.

16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



$$\{x | x \geq 320 \text{ and } x < 480\}$$

- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I used a solid dot on 320 because it said at least 40 miles. This implies that sometimes he does drive only 40 miles. Therefore 320 had to be included.

I used an open dot on 480 because it said he drove less than 60 miles. This means 60 is not included. Therefore I had to show 480 could not be included as the most.



16. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

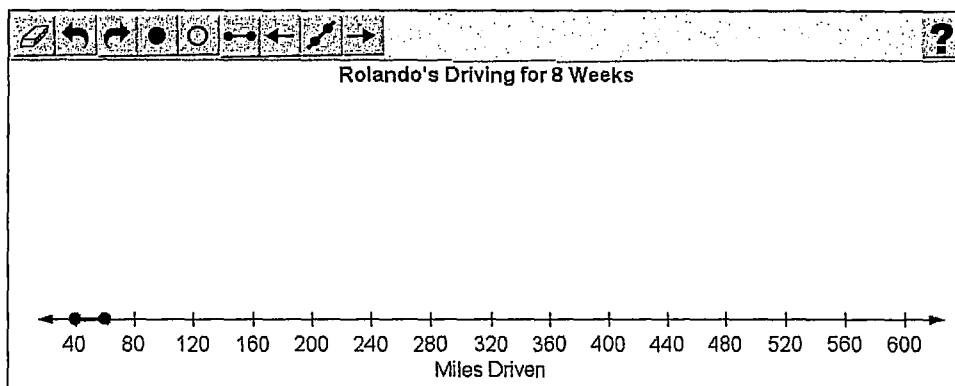
- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$m \geq 8.5(2.40)$$

$m$  here shows the minimal amount of money Rolando can spend. 8.5 gallons is the lowest amount of gallons he gets and \$2.40 is the cheapest for the gas. I used the inequality symbol ( $\geq$ ) because it shows that the amount of money Rolando can spend is greater than or equal to the product of 8.5 and \$2.40.

Rolando drives at least 40 miles but less than 60 miles each week.

A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in **part A**.

The dots on the number line should be filled in because the number of miles Rolando drives could be at LEAST 40, and at MAXIMUM 60. The number of miles he drove could have been 40, because it is less than, or equal to 60, and the number of miles he drove could have been 60, because that number is greater than, or equal to 40.

328 / 1000

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

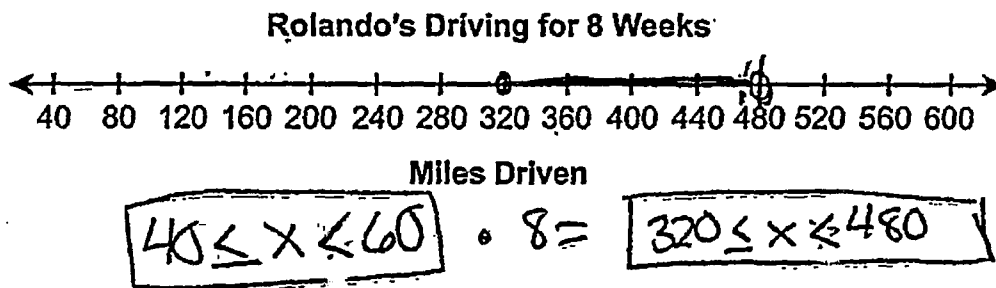
C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$8.5 \leq m \leq 11$

8 / 1000

16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I chose the endpoint for the first end of the graph to be a closed point because the question says he drives at least 40 miles (which means greater than or equal to). I chose an open point for the last point because he drove less than 60 miles (which means he does not surpass 60, this could be represented by  $x \leq 59$  because he does not drive 60 miles.)

16. **Continued.** Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

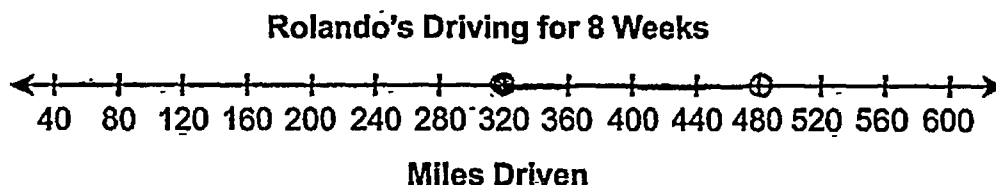
$\$2.40$   $\uparrow$  minimum price       $\$2.65$   $\uparrow$  maximum price      8.5  $\uparrow$  minimum gallons      11  $\uparrow$  maximum gallons

Do this total range of money

$$\begin{aligned} 2.40(8.5) &= \$20.40 \\ 2.65(11) &= \$29.15 \end{aligned}$$
$$20.40 \leq x \leq 29.15$$

16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



$$x \geq 40 \text{ and } x < 60$$

$$x \geq 320 \text{ \& } x < 480$$

- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I chose to use the closed circle as the endpoint on the left because it said Rolando drives at least 40 miles each week, which means he drives greater than or equal to 40 miles each week. And the closed circle is the symbol for less/equal to and greater than/equal to. I chose the open circle because it said Rolando drives less than 60 miles per week and the open circle is the symbol for less than.

16. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

①

$$m \geq 8.5 (2.4)$$

$$m \geq 20.4$$

① This equation shows the least amount <sup>of money</sup> possible for Rolando to spend on gas each week.

②

$$m < 11 (2.65)$$

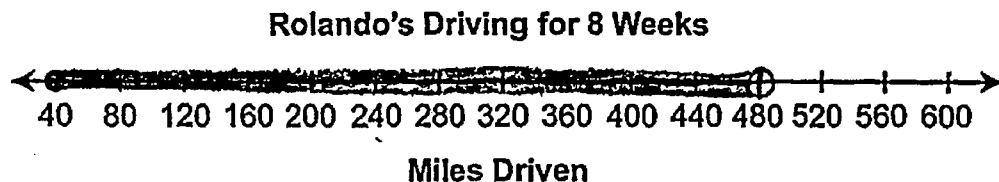
$$m < 29.15$$

② This equation shows the greatest amount of money possible for Rolando to spend on gas each week.

Therefore Rolando spends from \$20.40 a week on gas to \$29.15 a week on gas.

16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I chose to use those symbols because Rolando drives less than 60 miles each week and to get 480, I multiplied 60 by 8, because of the 8 weeks.

16. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$\underline{8.5m \cdot 2.40 < 11m \cdot 2.40}$$

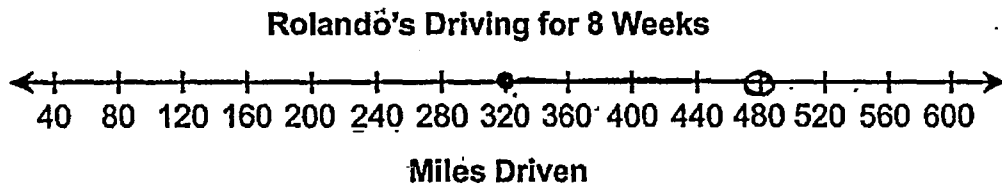
or

$$\underline{8.5m \cdot 2.65 < 11m \cdot 2.65}$$



16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

"•" is the symbol used on the graph when something is equal to the number. Rolando drives at least 40 miles per week so it has to be equal to 320 miles per 8 weeks.

"⊕" is the symbol used on graph when something is either equal to that number or less than or greater than that number. Rolando could have driven 60 miles or he could have driven less.

16. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$20.4 = 22.52 > 26.4 = 29.15$$

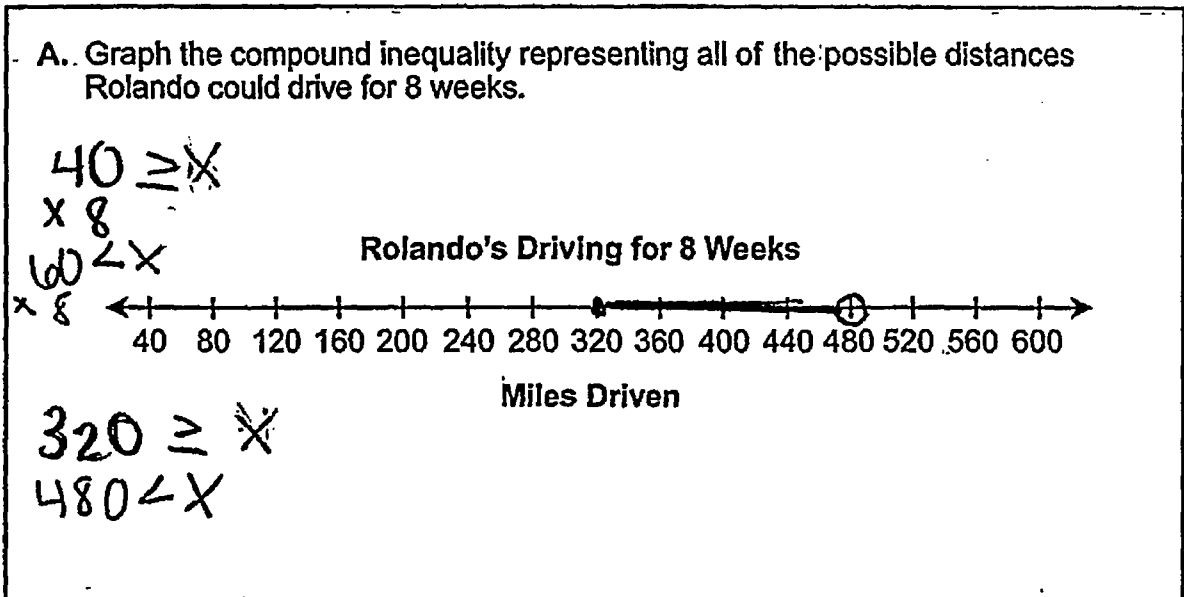
$$\begin{array}{r} 8.5 \\ \times 2.4 \\ \hline 20.4 \end{array}$$

$$\begin{array}{r} 8.5 \\ \times 2.65 \\ \hline 22.52 \end{array}$$

$$\begin{array}{r} 11 \\ \times 2.4 \\ \hline 26.4 \end{array}$$

$$\begin{array}{r} 11 \\ \times 2.65 \\ \hline 29.15 \end{array}$$

16. Rolando drives at least 40 miles but less than 60 miles each week.



B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I chose  $320 \geq x$  because at the top it said that Rolando drives at least 40 miles each week. At least means it is greater than or equal to because he never drives less. Then I multiplied  $40 \times 8$ , since it was for the time span of 8 weeks, and got  $320 \geq x$ . In the second equation I chose  $480 < x$  because at the top it said that Rolando drives less than 60 miles each week. less than means that he always drives under 60 miles/week. Then, I multiplied 60 by 8, for the 8 weeks, and got  $480 < x$ .

16. *Continued.* Please refer to the previous page for task explanation.

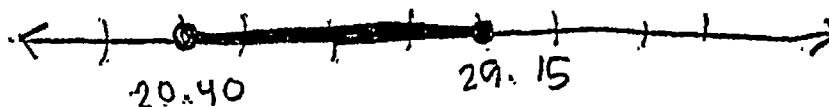
Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$8.5 \leq x \leq 11$$

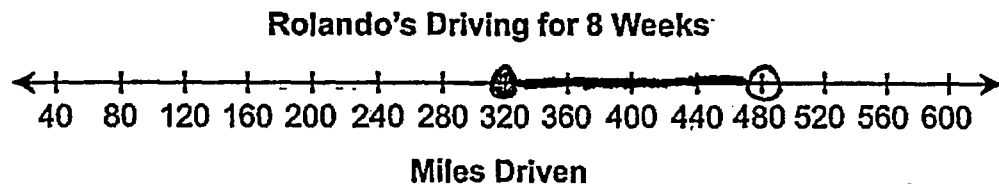
$$\begin{array}{rcl} 8.5 \cdot 2.40 & 11 \cdot 2.65 \\ \$20.40 & \$29.15 \end{array}$$

$$20.40 \leq x \leq 29.15$$



16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



320 480

- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

Rolando drove at least 40 miles but less than 60. Which means the equation was  $60 > x \geq 40$ .

16. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$8.5 \leq x < 11$$

$$\$2.40 \leq p \leq \$2.65$$

$$\$29.15 > x \geq \$20.40$$

Subject: Algebra 1      Item: Rolando's Driving

Name \_\_\_\_\_

Number	Score	Notes
T1-1		
T1-2		
T1-3		
T1-4		
T1-5		
T1-6		
T1-7		
T1-8		
T1-9		
T1-10		

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# Keystone Algebra 1

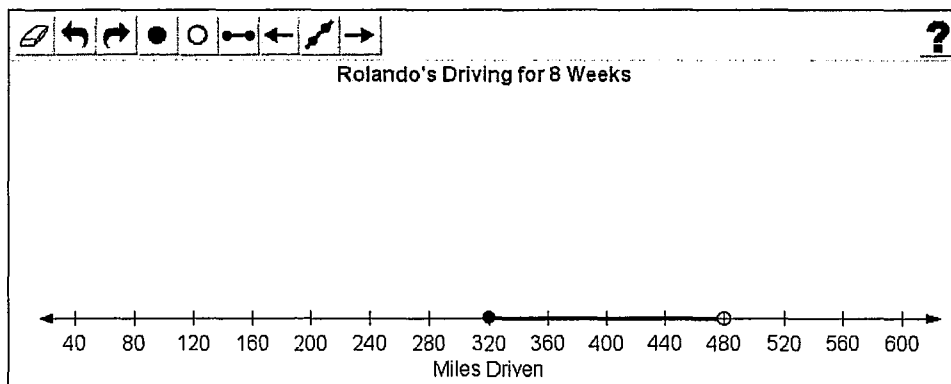
*Rolando's Driving*

Handscoring  
Training Set 2

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Rolando drives at least 40 miles but less than 60 miles each week.

A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in **part A**.

I used a solid dot to represent  $\geq$  because it said at least, and I used an open dot to represent  $<$  because it said less than.

120 / 1000

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

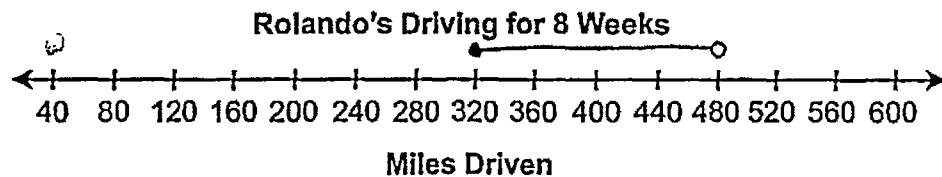
C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$8.5 \cdot 2.40 = 20.4$   
 $11 \cdot 2.65 = 29.15$   
 $20.4 \leq m < 29.15$

41 / 1000

16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



$$40 \times 8 = 320_m \quad 60 \times 8 = 480_m$$

- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I chose to use the symbols I used for the endpoints of the compound inequality in part A because of the explanation of the situation. It said "at least 40," which means it could be 40, so when it's including the number, you use a closed circle ( $\bullet$ ). It said "less than 60," which means it CAN'T be 60, so I used the open circle ( $\circ$ ) which signifies ~~cannot~~ NOT that ~~it~~.

16. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

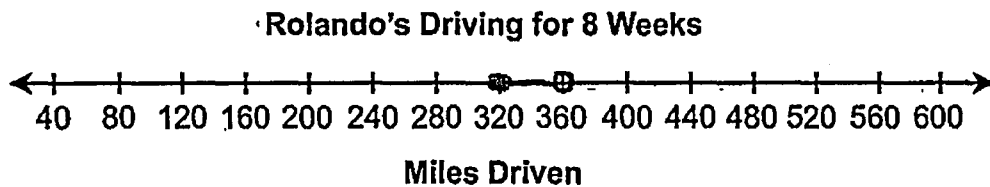
$$2.4 \cdot 8.5 < B \leq 11 \cdot 2.65$$

at least 8.5  
no more than 11  
gas = from \$2.4 to \$2.65

$$\$2.40 \cdot 8.5 < M \leq 11 \cdot \$2.65$$

16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I chose a closed circle as my first endpoint, because it represents that he could have driven 320mi or more. I chose an open circle for my second endpoint representing that he could have driven up to 352mi, but not 360mi.

16. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

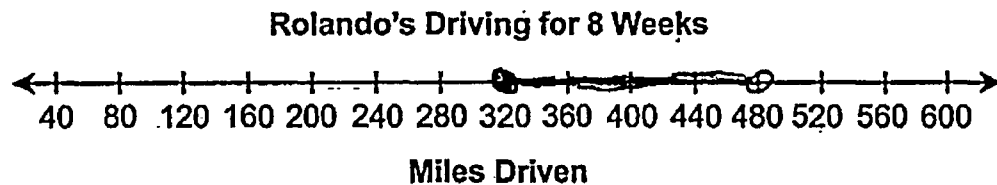
- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

Rolando will buy  
8.5 to 11 gallons of gas  
per week, at a price  
of \$2.40 to \$2.65.

$$9 = 8.5 \leq 2.65 \geq 11 \geq 2.40$$

16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

For the one endpoint, I used a closed dot because he drove at least 40 miles, meaning he could've drove 40 but nothing less. I used an open dot for the other endpoint. I did this because he drove "less than", not up to, 60 miles.



16. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$8.5 \leq x \leq 11$$

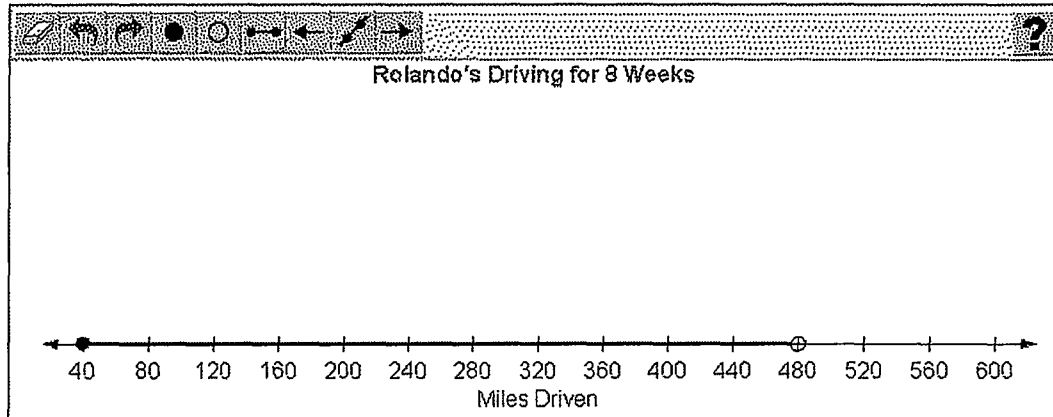
$$20.4 \leq x \leq 29.15$$

$$\boxed{\$20.4 \leq m \leq \$29.15}$$

To figure out how much money Rolando spends on gas, I started with realizing that he will buy between 8.5 and 11 gallons of gas. Then I just multiplied 8.5 by 2.40 because, this is the lowest amount of money he could possibly spend. Then I multiplied 11 by 2.65 because this is the highest amount he can spend. That got me the inequality of  $20.4 \leq m \leq 29.15$ .

Rolando drives at least 40 miles but less than 60 miles each week.

A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I used a closed circle at the point 40 because I knew it had to be a greater than or equal to sign because of the words 'at least'. I also chose an open circle at the point 480 because of the words 'less than'.

211 / 1000

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

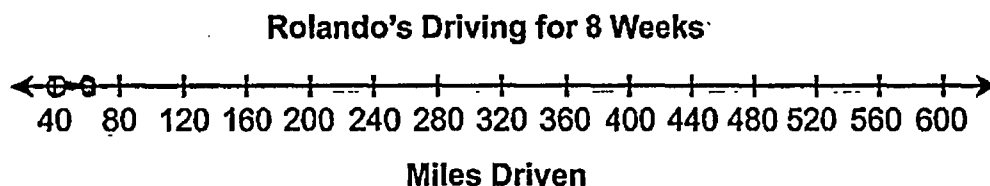
C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$\$20.40 \leq m \leq \$29.15$   
 The lowest number of gallons that Rolando buys is 8.5 and the lowest gas price is \$2.40. So, I multiplied 8.5 and 2.4 together to get the lowest amount of money he could spend on gas each week. Then, I took the highest number of gallons, 11, and multiplied that by the highest gas price which is 2.65. The lowest amount of money is \$20.40, and the highest amount of money is \$29.15. The problem explains that he buys at least 8.5 gallons so I used a greater than or equal to sign, and that he buys no more than 11 gallons, so I used a less than or equal to sign to write my inequality.

600 / 1000

16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I put them like that because  
open circle means equal to the  
dark circle means less than or greater  
than.

16. **Continued.** Please refer to the previous page for task explanation.

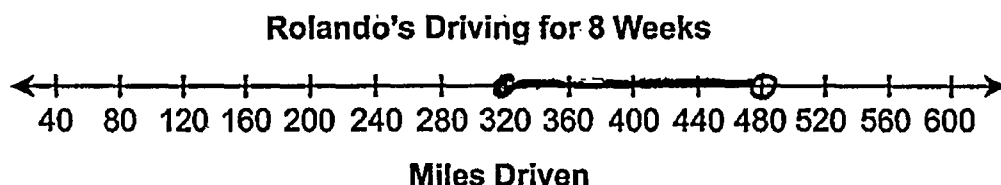
Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$m = 8.5 \leq 11 = 2.40 \leq 2.65$$

16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I chose a closed circle for the part where it says Rolando drives at least 40 miles because at least means greater than or equal to. And if it is equal to, the endpoint has to be closed because it could be that number. I chose an open endpoint where it says less than 60 miles per week because it says less than which means it is not equal to that number, it is only less than it.

16. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

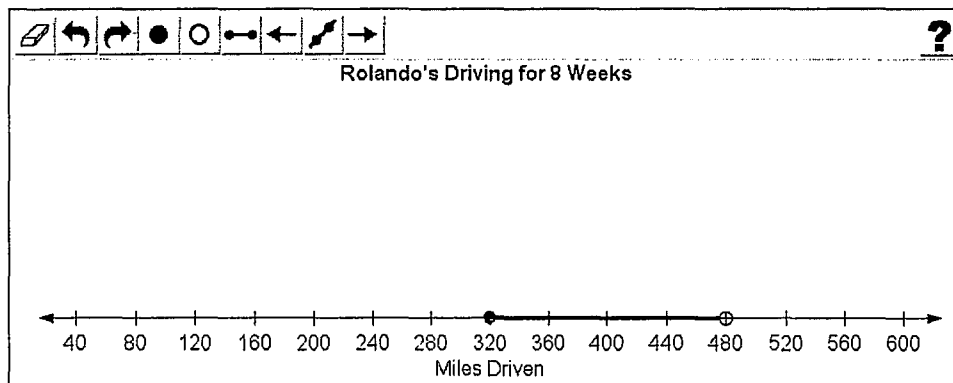
$$8.5 \leq x \leq 11$$

$$8.5(2.40) \leq x \leq 11(2.65)$$

$$20.40 \leq x \leq 29.15$$

Rolando drives at least 40 miles but less than 60 miles each week.

A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in **part A**.

I chose to use a closed circle as an endpoint at 320 because since Rolando drives at least 40 miles a week in eight weeks he will drive a minimum of 320 miles. Rolando drives at least 320 miles in eight weeks so the closed circle shows that the minimum amount of miles he drives includes 320. I used an open circle as an endpoint at 480 because since Rolando drives less than 60 miles in a week he will drive less than 480 miles in eight weeks. The open circle shows that Rolando will drive at most just under 480 miles in eight weeks.

532 / 1000

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

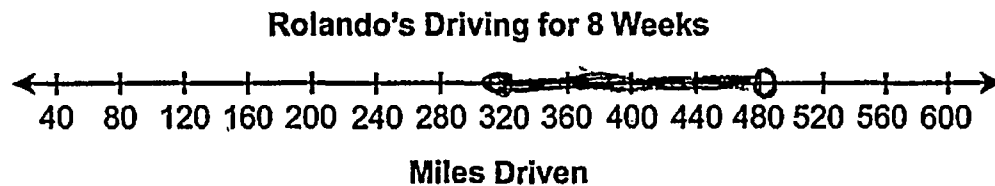
$x \leq 29.15$  and  $x \geq 20.4$

the most Rolando can spend on gas each week is 29.15 so  $x$  has to be equal to or less than 29.15, but the least he can spend on gas is 20.4 so  $x$  is equal to or greater than 20.4

196 / 1000

16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

Since Rolando drives at least 40 miles each week, he drives equal to or greater than 40 miles each week. Equal to or greater than is represented by a filled dot on the number line. Rolando drives less than 60 miles each week, and less than is represented by an open dot on the number line.



16. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$8.5 \cdot \$2.4 = \$20.40$$

$$m \geq \$20.40$$

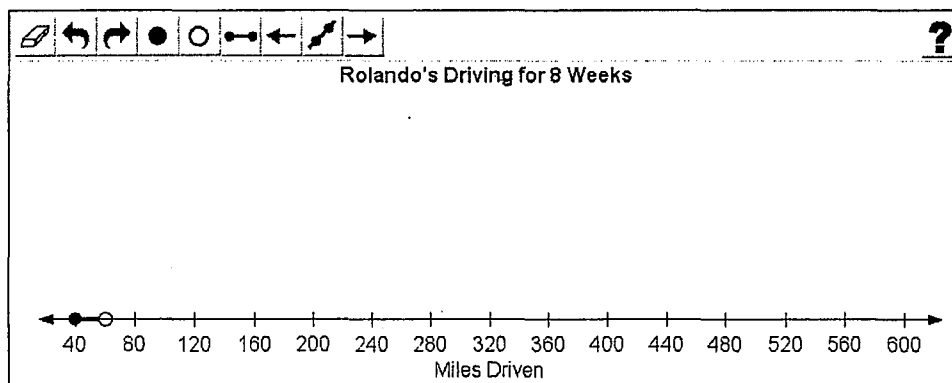
$$11 \cdot 2.65 = \$29.15$$

$$m \leq \$29.15$$

$$\begin{array}{l} m \geq \$20.40 \\ m \leq \$29.15 \end{array}$$

Rolando drives at least 40 miles but less than 60 miles each week.

A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in **part A**.

For the first part it says at least 40. This is saying that he can go 40 or more therefore you would use a closed circle. Then it states but less than 60. This is saying he cannot go 60 but only 59 or less. here you would use an open circle.

241 / 1000

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$20.4 < x < 29.15$$

$$8.5 \times \$2.40 = 20.4$$

$$11 \times \$2.65 = 29.15$$

45 / 1000

Subject: Algebra 1

Item: Rolando's Driving

Name \_\_\_\_\_

Number	Score	Notes
T2-1		
T2-2		
T2-3		
T2-4		
T2-5		
T2-6		
T2-7		
T2-8		
T2-9		
T2-10		

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# Keystone Algebra 1

## *Rolando's Driving*

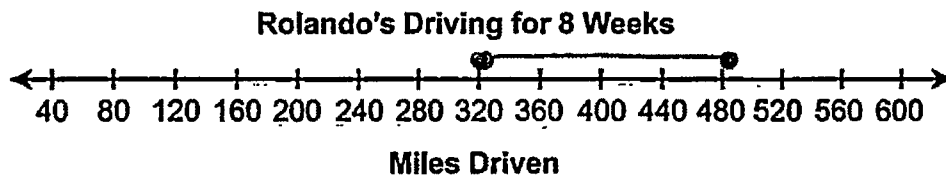
### Handscoring Practice Set<sup>\*</sup>

<sup>\*</sup>Responses in this set do not have true scores. Apply scores based on scoring criteria.

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16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



$$40 \cdot 8 = 320$$

$$60 \cdot 8 = 480$$

$$320 \leq x < 480$$

- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

Because the miles driven could be equal to or less / greater than the two numbers shown.

16. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$8.5 \cdot 2.40 = \$20.4$$

$$8.5 \cdot 2.65 = \$22.53$$

$$11 \cdot 2.40 = 26.4$$

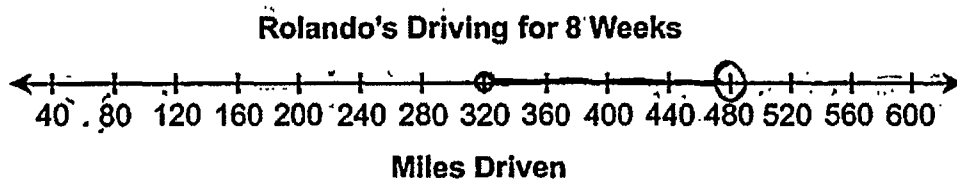
$$11 \cdot 2.65 = 29.55$$

$$\$20.4 \leq m \leq 29.55$$



15. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I used a closed circle to plot the  $x \geq 320$  point because  $\geq$  is  $\geq 320$  so it includes 320. I chose an open circle to plot  $x < 480$  because  $x$  has to be less than 480 and cannot be 480. So, it doesn't include the 480.

15. **Continued.** Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$20.40 \leq m \leq 29.15$$

Work:

$x = \text{gallons}$   
 $m = \$$

$$x \geq 8.5$$

$$x \leq 11$$

$$m \geq 2.4$$

$$m \leq 2.65$$

$$\begin{array}{r} 2.4 \\ \times 8.5 \\ \hline \end{array}$$

$$20.4$$

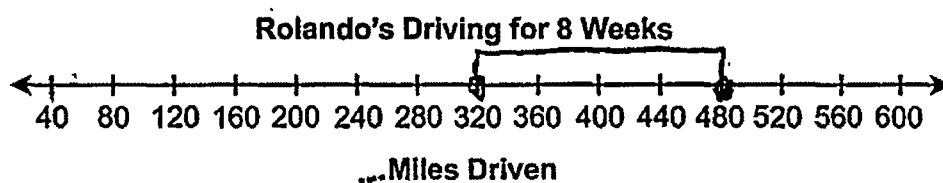
$$m \geq 20.40$$

$$\begin{array}{r} 11 \\ \times 2.65 \\ \hline \end{array}$$

$$m \leq 29.15$$

16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I chose these symbols because the closed circle represents that the answer is one of those numbers or a number in between.

16. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$\$20.40 \leq \$29.15$$

$$\begin{array}{r} 8.5 \\ \times 2.4 \\ \hline 20.4 \end{array}$$

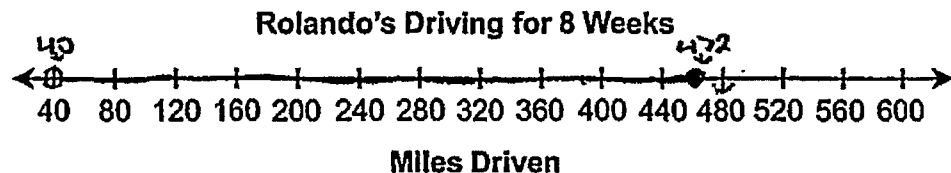
Lowest Amount

$$\begin{array}{r} 8.5 \\ \times 2.65 \\ \hline 22.575 \end{array}$$

Highest Amount

15. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I chose an open circle for the endpoint at mile 40 because it said Rolando drives at least 40 miles, indicating that he could drive 40 or more miles, and that's what the open circle shows, that he could drive 40 miles or more. I chose a closed circle for the endpoint at mile 480 because it said he drives less than 60 miles, so that's saying Rolando can only drive less than 60 miles, which is what the closed circle indicates. If I would've put an open circle, it would've meant Rolando driving 60 miles or less, which would be incorrect.

15. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

at least =  $\leq$   
no more than =  $\geq$

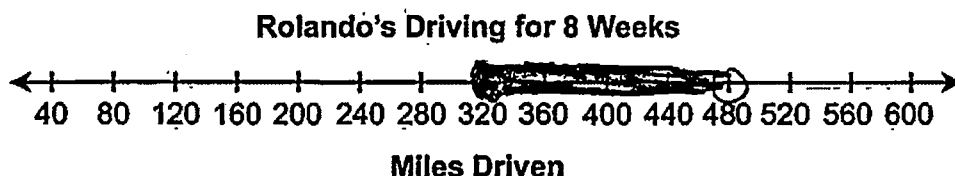
$\leq 8.5$  but  $\geq 11$

range  
 $\$2.40 - \$2.65$

$$Y \leq 8.5 \geq 11 = X \leq 2.4 \geq 2.65$$

16. Rolando drives at least 40 miles, but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



$$320 \leq x < 480$$

- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

Since the question said "at least" for the first part, I used the  $\leq$  symbol, but when the problem stated "less than" I used  $<$  for the second part.

16. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

at least 8.5  
no more than 11

lowest price = 2.40

highest price = 2.65

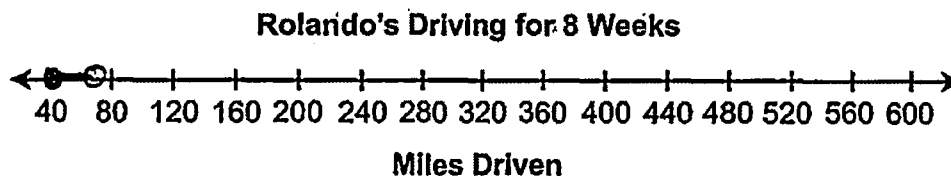
$$20.4 \leq m \leq 29.15$$

$$\begin{array}{r} 8.5 \\ \times 2.40 \\ \hline 20.4 \\ 11 \\ \times 2.65 \\ \hline 29.15 \end{array}$$



16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I chose the closed circle for 40 because it is at least so it can be 40 or greater. I chose an open circle for the 600 because it is just less than and nothing else.

16. *Continued.* Please refer to the previous page for task explanation.

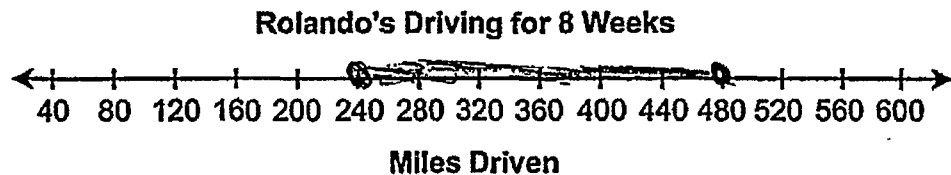
Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$\begin{aligned} m &\geq 8.5 \times \$2.40 & m &\geq \$10.9 \\ m &\leq 11 \times \$2.65 & m &\leq \$13.65 \end{aligned}$$

15. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

It gives you how much Rolando drives in one week. It wants to know the miles driven in 8 weeks. So you multiply 40 by 8 and get 240. Then you multiply 60 by 8 and get 480.

15. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

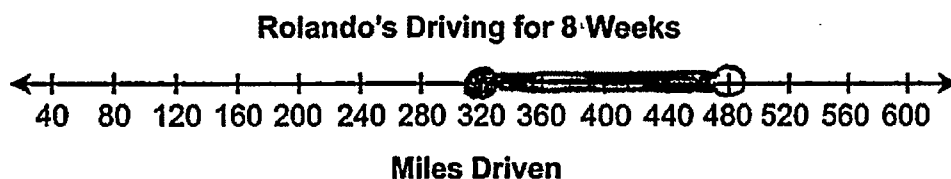
- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$x \geq 20.4$$
$$x \leq 29.15$$

16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.

$$x \geq 320 \text{ and } x < 480$$



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I chose the shaded in circle over 320 because it could include 320 miles. I chose the open circle over 480 because he had to drive less than 60 miles a week so 480 is not included in the total amount of miles.

16. *Continued.* Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

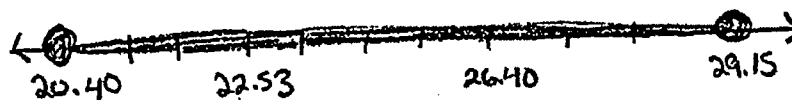
- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$2.40 \times 8.5 = 20.40$$

$$2.65 \times 8.5 = 22.53$$

$$2.40 \times 11 = 26.40$$

$$2.65 \times 11 = 29.15$$

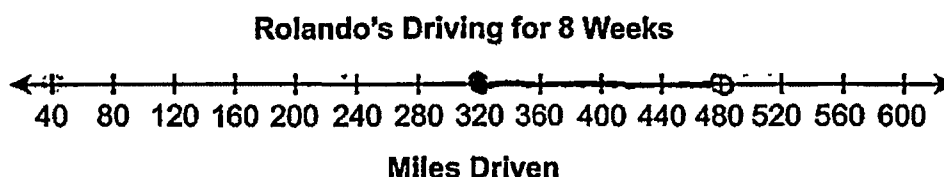


$$m \geq \$20.40 \text{ and } m \leq \$29.15$$

$$\$20.40 \leq m \leq \$29.15$$

16. Rolando drives at least 40 miles but less than 60 miles each week.

- A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



- B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in part A.

I used a closed or shaded circle because Rolando drives at least 40 miles, so it could be equal to or greater than ( $\geq$ ).

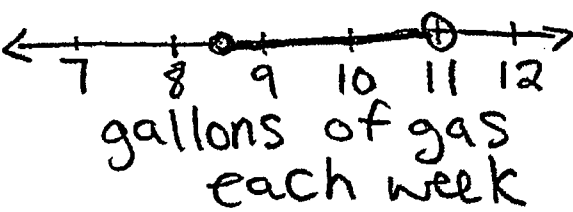
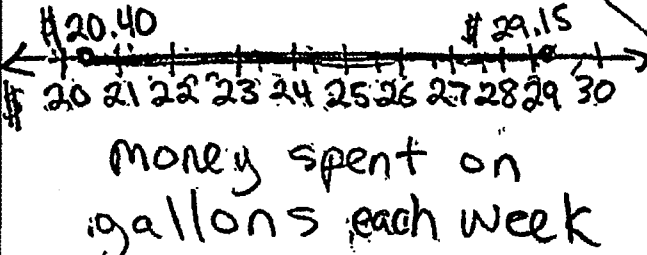
I used an open circle because Rolando drives less than 60 miles, so it cannot be equal to ( $<$ ).

Rolando drives between 40 and 60 miles a week so the line connects.

16. **Continued.** Please refer to the previous page for task explanation.

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

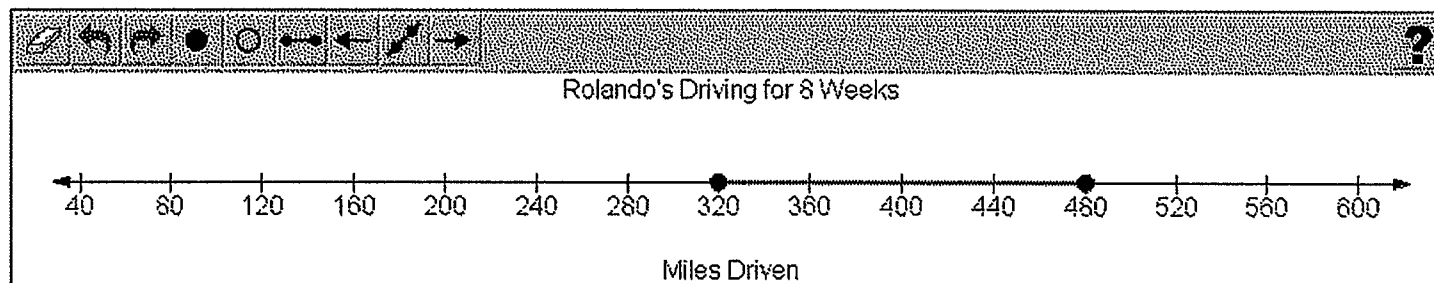
- C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

Work	Explain
$8.5 \geq$ and $< 11$ gallons $2.40 \rightarrow 2.65$ $8.5 \times 2.40 = \$20.40$ $8.5 \times 2.65 = \$22.53$ per week $11 \times 2.40 = \$26.40$ $11 \times 2.65 = \$29.15$  	<p>First I figured out how much money Rolando could spend on his least amount of gas (8.5 gallons) with the price it could range and then I repeated it with the highest amount of gas (11 gallons) Rolando would buy in a week. I multiplied the prices of gas for one gallon by the range of gas Rolando buys in a week. Then I graphed the prices.</p>



Rolando drives at least 40 miles but less than 60 miles each week.

A. Graph the compound inequality representing all of the possible distances Rolando could drive for 8 weeks.



B. Explain why you chose to use the symbols you used for the endpoints of the compound inequality in **part A**.

I have chosen these symbols because the equation looks like the following:  $320 \leq x \leq 480$ . This is a less than or equal to equation, so it is an and statement. It is a closed dot because it includes the numbers 320 and 480 into the equation. The line connects these two points because the values that make the equation true are all in between 320-480.

335 / 1000

Rolando buys at least 8.5 but no more than 11 gallons of gas each week. The price of gas has ranged from \$2.40 to \$2.65 per gallon each week.

C. Write an inequality to model all of the possible amounts of money ( $m$ ) Rolando spends on gas each week. Show or explain all your work.

$$\$20.40 \leq m \leq \$29.15$$

Using this you see that Rolando can will spend between the highest and the lowest amount on gas if he drives between 8.5-11 miles. \$20.40 represents the lowest amount of money Rolando can spend when buying only 8.5 gallons of gas, while \$29.15 represents the maximum amount of money he will have to spend when obtaining 11 gallons of gas.

357 / 1000

**PRACTICE SET\***

**Subject: Algebra 1**

**Item: Rolando's Driving**

Name \_\_\_\_\_

Number	Score	Consensus	Notes
P-1			
P-2			
P-3			
P-4			
P-5			
P-6			
P-7			
P-8			
P-9			
P-10			

**\* Responses in this set do not have true scores. Apply scores based on scoring criteria.**

# Keystone Algebra 1

*Rolando's Driving*

Handscoring  
Training Sets 1 and 2  
True Scores/Annotations

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Page	Score	Description
1	2	A. 1 point – correct answer. B. 1 point – complete explanation. C. 0.5 point – partially correct answer (one sign error, “<” instead of “≤”), no support is given.
2	4	A. 1 point – correct answer. B. 1 point – complete explanation (includes “blemishes”). C. 2 points – correct inequality and complete support (note that the support for the upper extreme is verbal).
3	2	A. 1 point – correct answer. B. 1 point – complete explanation. C. 0.5 point – incorrect inequality and correct but incomplete support.
4	1	A. 0 points – incorrect answer. B. 1 point – correct explanation, based on this student's graph in part A. C. 0 points – incorrect inequality and no support.
5	4	A. 1 point – correct answer. B. 1 point – complete explanation (consider “ $x \leq 59$ ” equivalent to “ $x < 60$ ”). Note also that “does not surpass 60” would include 60, but this student clearly “self-corrects” to indicate that 60 is not included. C. 2 points – correct inequality and complete support.
6	3	A. 1 point – correct answer. B. 1 point – complete explanation. C. 1 point – incorrect inequality, complete support.
7	0	A. 0 points – incorrect answer. B. 0 points – insufficient explanation for any credit (nothing about closed/open). C. 0 points – incorrect inequality(s) and incorrect support.
8	1	A. 1 point – correct answer. B. 0 points – incorrect explanation. C. 0.5 point – incorrect inequality, correct but incomplete support (extremes are not identified).
9	2	A. 1 point – correct answer. B. 0 points – incorrect explanation (inequality symbols only, not endpoints). Note: this would NOT get minimal understanding because the inequalities are incorrect. C. 1.5 points – partially correct inequality (one sign error, “≥” instead of “≤”), complete support.
10	1	A. 1 point – correct answer. B. 0 points – incorrect explanation. C. 0.5 points – partially correct inequality (one sign error, “>” instead of “≥”), incorrect support.

Page	Score	Description
1	3	A. 1 point – correct answer. B. 0.5 points – correct but incomplete explanation (like SG-9). C. 1.5 points – partially correct answer (one sign error) and complete support.
2	3	A. 1 point – correct answer. B. 1 point – complete explanation. C. 1 point – no credit for answer (inequality needs to be simplified), complete support.
3	1	A. 0 points – incorrect answer. B. 1 point – complete explanation (consider “352” a blemish). C. 0 points – incorrect.
4	4	A. 1 point – correct answer. B. 1 point – complete explanation. C. 2 points – correct answer and complete support.
5	2	A. 0 points – incorrect answer. B. 1 point – correct explanation. C. 1.5 points – partially correct answer (one sign error), complete support.
6	0	A. 0 points – incorrect answer. B. 0 points – incorrect explanation. C. 0 points – incorrect answer and support.
7	4	A. 1 point – correct answer. B. 1 point – complete explanation. C. 2 points – correct answer and complete support.
8	3	A. 1 point – correct answer. B. 1 point – complete explanation. C. 1 point – correct answer, the support is insufficient for any credit.
9	3	A. 1 point – correct answer. B. 1 point – complete explanation. C. 1 point – no credit for the inequality (no “and”), complete support.
10	2	A. 0 points – incorrect answer. B. 1 point – complete explanation (consider “only 59 or less” a blemish). C. 1 point – no credit for the answer (2 sign errors), complete support.

# Keystone Algebra 1

## Handscoring Nonscore Codes

# PENNSYLVANIA NONSCORABLE CODES

**For PSSA Reading, Science, and Mathematics and all Keystone Open-ended Items (items with zero as a valid score point):**

Nonscoreable Code	Definition/Example/Notes
B – Blank	<p>Completely blank response. This includes responses that:</p> <ul style="list-style-type: none"> <li>• Are completely erased (so that words are unreadable)</li> <li>• Are completely crossed out (so that words are unreadable)</li> <li>• Online responses that consist solely of “white space” (e.g., spaces, tabs, returns)</li> </ul>
R – Refusal	<p>Response indicates a refusal to attempt the task. This includes:</p> <ul style="list-style-type: none"> <li>• <i>I don’t care; I’m not taking this test; This is stupid; I won’t do it; you can’t make me answer this question</i></li> <li>• <i>I don’t know; IDK; we never learned this; X; NA</i></li> <li>• <i>Unrelated song lyrics/rap lyrics/poetry (e.g., the lyrics to Hotel California in answer to a writing prompt asking whether backpacks should be allowed in class)</i></li> <li>• <i>Intentionally off-task response (e.g., a detailed description of what the student ate for breakfast that morning in answer to a question about Mozart’s childhood)</i></li> </ul> <p>This also includes responses that consist solely of scribbles, random keystrokes (yyyyyyy, av:aeoiahvb;e, hhrttuuvv), indecipherable writing/keystrokes (swensts mengetstets arawnstets) emoticons, stray marks, doodles, drawings, circles, underlines, a couple of random letters (not a word), copying the question and/or test directions, or other evidence that no attempt was made to address the task.</p>
K – Off task/topic	<p>Response makes no reference to the item or (if applicable) the passage provided, but does not seem to constitute an intentional refusal.</p> <p>If any part of the response relates to the item in any way, score the response.</p>
F – Foreign Language	<p>Responses written entirely in a language other than English.</p> <p>Note that mathematics responses may still be scoreable if they also contain mathematical language (numbers, operators, etc.) that can be assessed by the rubric.</p> <p>Also note that a Spanish language version of the test is available for students for mathematics and science assessments. These are scored by qualified Spanish-speaking scorers.</p>
U – Illegible	<p>This category includes:</p> <ul style="list-style-type: none"> <li>• Responses that are completely illegible due to poor handwriting.*</li> <li>• Online or typed responses that are incoherent due to consisting of random strings of words that are not clearly a Refusal or Off Topic (e.g., <i>best day school teacher inspired so I rode my car</i>)</li> </ul> <p>* If a response is difficult to read, every effort is made to read the response. Multiple people, including a Team Leader and/or a Scoring Director, will attempt to decipher the response, and the original answer document will be reviewed if necessary. If, ultimately, only a portion of the response is legible, that verbiage will be scored on its own merits.</p>

**Note:** In reading, copied irrelevant text receives a score of 0.

**Note:** Responses that consist of a couple of words and do not represent a complete thought (e.g., *I think that, Ramps are*) receive a score of 0.

**Note:** Crossed out, but legible/partially legible, responses are scored according to the rubric based on whatever verbiage is legible.