SECURE MATERIAL - Reader Name: _____

Tennessee Comprehensive Assessment Program

TCAP/CRA

2014

7

Phase III

Amusement Park Task

Anchor Set

Amusement Park Task

Ileana leaves her driveway and drives at a constant rate toward an amusement park. After 10 minutes, she has driven 10 miles.

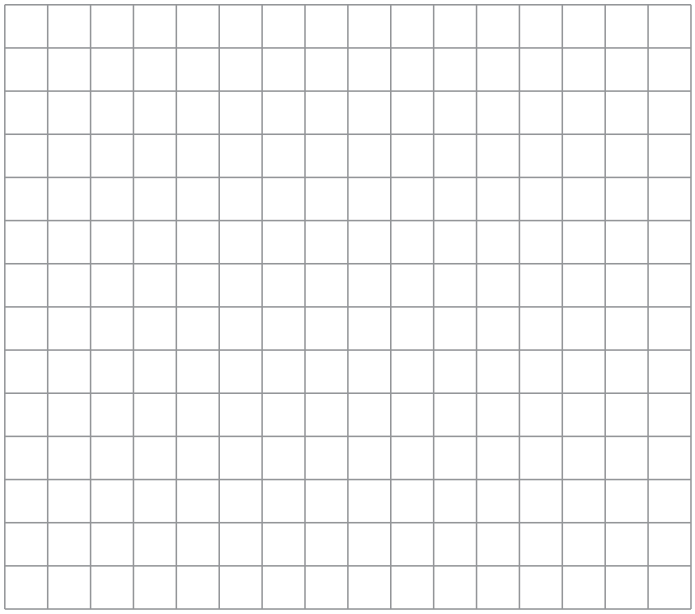
a. Determine the rate at which she is driving:

in miles per minute:

in miles per hour:

b. Create a graph that shows the relationship between the time that Ileana drives and the distance traveled.

Amusement Park Drive



Amusement Park Task

c. Explain whether or not the graph represents a proportional relationship.

d. Determine the *y*-value at $x = 1$. Explain what this point represents in context of her problem.

e. Explain what (0, 0) represents in this problem situation.

Scoring Guide

The CCSS for Mathematical Content (4 points)

7.RP.A.2b Correctly identifies the rate at which Ileana is driving as one mile per minute and as sixty miles per hour, or equivalent rates. _____
(1 Point)

7.RP.A.2a Determines whether the relationship shown is proportional in one of the following ways: _____

- indicating that the graph is linear and passes through the origin and therefore represents a proportional relationship;
- creating a table of values corresponding to points on the graph and showing that the ratio x:y (or y:x) is constant for each value in the table;
- creating a table of values corresponding to points on the graph and showing that for each value in the table, $\frac{y_1}{y_2} = \frac{x_1}{x_2}$ (may use $\frac{y_2}{y_1} = \frac{x_2}{x_1}$); may note this ratio by demonstrating that, as x doubles, so does y; as x triples, so does y, etc. for each value in the table; or
- writing an equation of the form $y = kx$ to represent the relationships between time and distance, and explaining that equations of this form represent proportional relationships.

(1 Point)

7.RP.A.2d(x) Explains that the point (1, 1), if the x-axis is labeled in minutes, or (1, 60) if the x-axis is labeled in hours, represents the unit rate or the number of miles driven for every 1 hour or minute (or gives a correct explanation for the graph if the x-axis is labeled miles). The student may make minor calculation errors in determining the rate. _____
(1 Point)

7.RP.A.2d(z) Explains that the point (0, 0) represents 0 miles driven after 0 minutes or hours. _____
(1 Point)

The CCSS for Mathematical Practice (3 points)

MP1 Writes a second rate in part a to represent the speed at which Ileana is driving. _____
(1 Point)
(MP1: Make sense of problems and persevere in solving them.)

MP4 Creates a graph to represent the context given by the problem; scales and axis labels are appropriate to the problem. _____
(1 Point)
(MP4: Model with mathematics.)

MP6 Algebraic expressions and all calculations are correct; mathematical language and notation are precise. _____
(1 Point)
(MP6: Attend to precision.)

TOTAL POINTS: 7

The CCSS for Mathematical Content Addressed In This Task

Analyze proportional relationships and use them to solve real-world and mathematical problems.	
7.RP.A.2a	Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table, or by graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
7.RP.A.2b	Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
7.RP.A.2d	Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate.

The CCSS for Mathematical Practice*

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

* Gray type indicates Mathematical Practices not addressed in this assessment.

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TNCore

Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

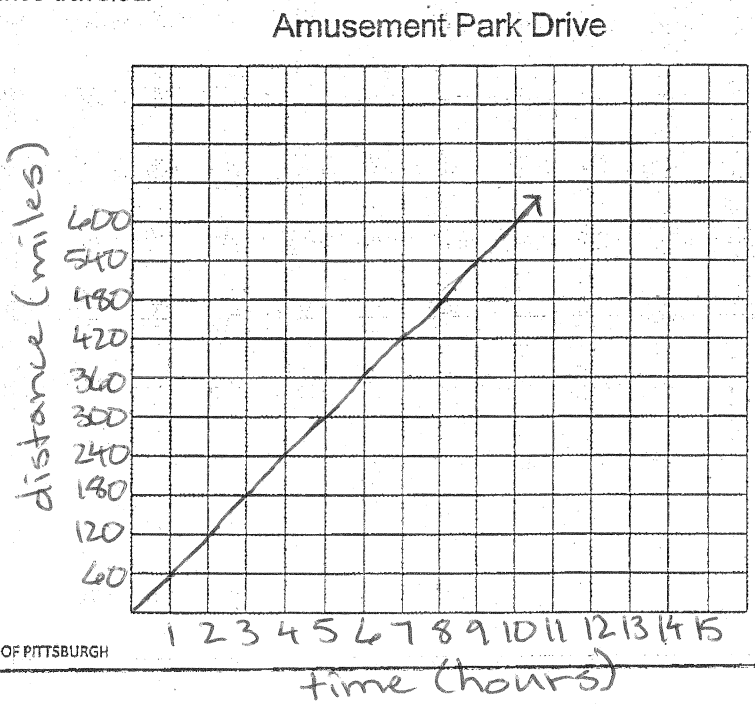
Ileana leaves her driveway and drives at a constant rate toward an amusement park. After 10 minutes, she has driven 10 miles.

a. Determine the rate at which she is driving:

in miles per minute: She has gone 1 mile per minute.

in miles per hour: She will go 60 miles in one hour.

b. Create a graph that shows the relationship between the time that Ileana drives and the distance traveled.



Litho#: 00917200163

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Constructed Response Assessment

Amusement Park Task

Explain whether or not the graph represents a proportional relationship.

Yes, it is a straight line starting at the origin.

c. Determine the *y*-value at $x = 1$. Explain what this point represents in context of her problem.

$y = 60$ At 1 hour she has gone 60 miles

d. Explain what (0, 0) represents in this problem situation.

She has gone 0 miles in 0 hours.

Anchor 1 Litho 00917200163

Total Content Points: 4 (7.RP.A.2b, 7.RP.A.2a, 7.RP.A.2d(x), 7.RP.A.2d(z))

Total Practice Points: 3 (MP1, MP4, MP6)

In Part A, the student correctly identifies the rate at which Ileana is driving as 1 mile per minute and as 60 miles per hour. While "She will go 60 miles in one hour" is not stated as a "per hour" rate, it does represent a correct calculation (7.RP.A.2b). In Part B, the student determines that the relationship shown is proportional by indicating that the graph is linear and passes through the origin (7.RP.A.2a). The student identifies the *y*-value as 60 in Part C and explains that the point (1, 60) represents the number of miles driven in one hour ("At 1 hour she has gone 60 miles"). While the student does not identify this as the unit rate, it is an accurate statement within the context of her problem (7.RP.A.2d(x)). In Part D, the student explains that the point (0, 0) represents 0 miles driven after 0 hours (7.RP.A.2d(z)). The student writes a second rate in Part A to represent the speed at which Ileana is driving (MP1). In Part B, the student creates a graph to represent the context given by the problem, labeling the *x*-axis with time in hours and the *y*-axis with distance in miles, scaling the axes appropriately, and beginning at point (0, 0) (MP4). Algebraic expressions and all calculations are correct; mathematical language and notation are precise (MP6).

Total Awarded Points: 7 out of 7

Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

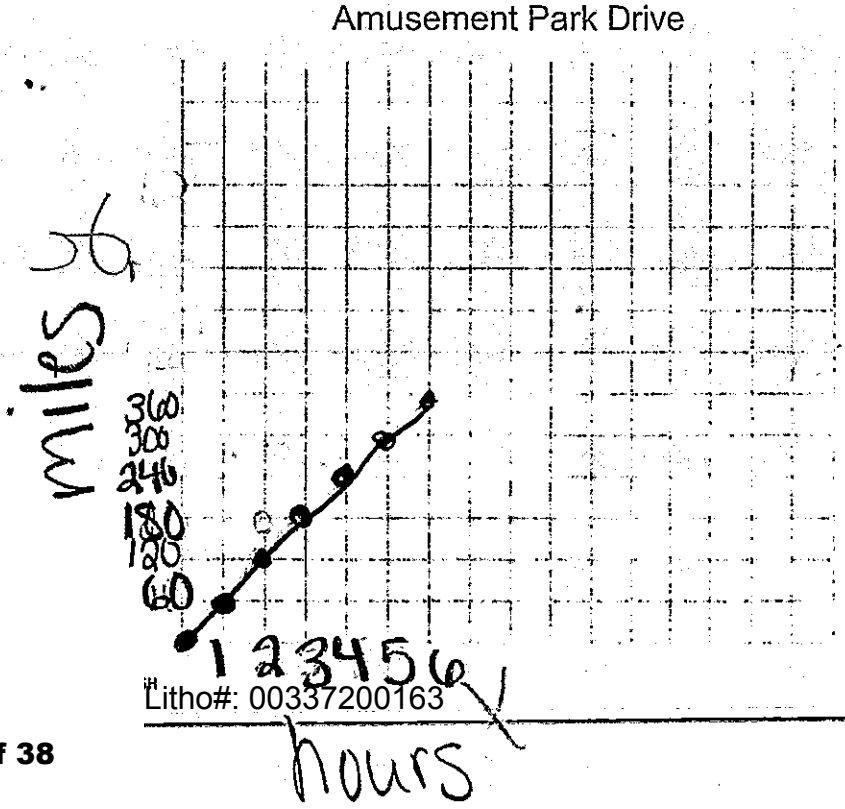
Ileana leaves her driveway and drives at a constant rate toward an amusement park. After 10 minutes, she has driven 10 miles.

a. Determine the rate at which she is driving:

in miles per minute: 10miles ÷ 10minutes = 1mile per minute

in miles per hour: $\frac{1\text{mile}}{1\text{minute}} = \frac{X}{60m}$ X=60miles per hour

b. Create a graph that shows the relationship between the time that Ileana drives and the distance traveled.



Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

Explain whether or not the graph represents a proportional relationship.

$\frac{1}{60} = \frac{2}{120}$ $60 \cdot 2 = 120$ $1 \cdot 120 = 120$

$\frac{3}{180} = \frac{4}{240}$ - $180 \cdot 4 = 720$ $240 \cdot 3 = 720$ Yes, they're proportional.

c. Determine the *y*-value at $x = 1$. Explain what this point represents in context of her problem.

$y = x + 0$
$y = 1 + 0$
$y = 1$

This point represents the slope 1/1.

d. Explain what (0, 0) represents in this problem situation.

0,0 represents the starting point at which she starts leaving the driveway.

Anchor 2 Litho 00337200163

Total Content Points: 3 (7.RP.A.2b, 7.RP.A.2a, 7.RP.A.2d(z))

Total Practice Points: 3 (MP1, MP4, MP6)

In Part A, the student correctly identifies the rate at which Ileana is driving as 1 mile per minute and as 60 miles per hour (7.RP.A.2b). In Part B, the student determines that the relationship shown is proportional by using cross multiplication to show that for two pairs of points on the graph, the ratios of their *x*- to *y*-values are equal (7.RP.A.2a). The student incorrectly identifies the *y*-value as 1 in Part C and does not explain what that point represents in context of Ileana's problem (no credit for 7.RP.A. 2d(x)). In Part D, the student explains that the point (0, 0) represents "the starting point." Since this phrase is applicable to the problem situation and implies both distance and time, it is an acceptable response (7.RP.A.2d(z)). The student writes a second rate in Part A to represent the speed at which Ileana is driving (MP1). In Part B, the student creates a graph to represent the context given by the problem, labeling the *x*-axis with hours and the *y*-axis with miles, scaling the axes appropriately, and beginning at point (0, 0) (MP4). Algebraic expressions and all calculations are correct; mathematical language and notation are precise (MP6).

Total Awarded Points: 6 out of 7

Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

Ileana leaves her driveway and drives at a constant rate toward an amusement park. After 10 minutes, she has driven 10 miles.

a. Determine the rate at which she is driving:

10 min. 10miles. 1 mile per min

in miles per minute:

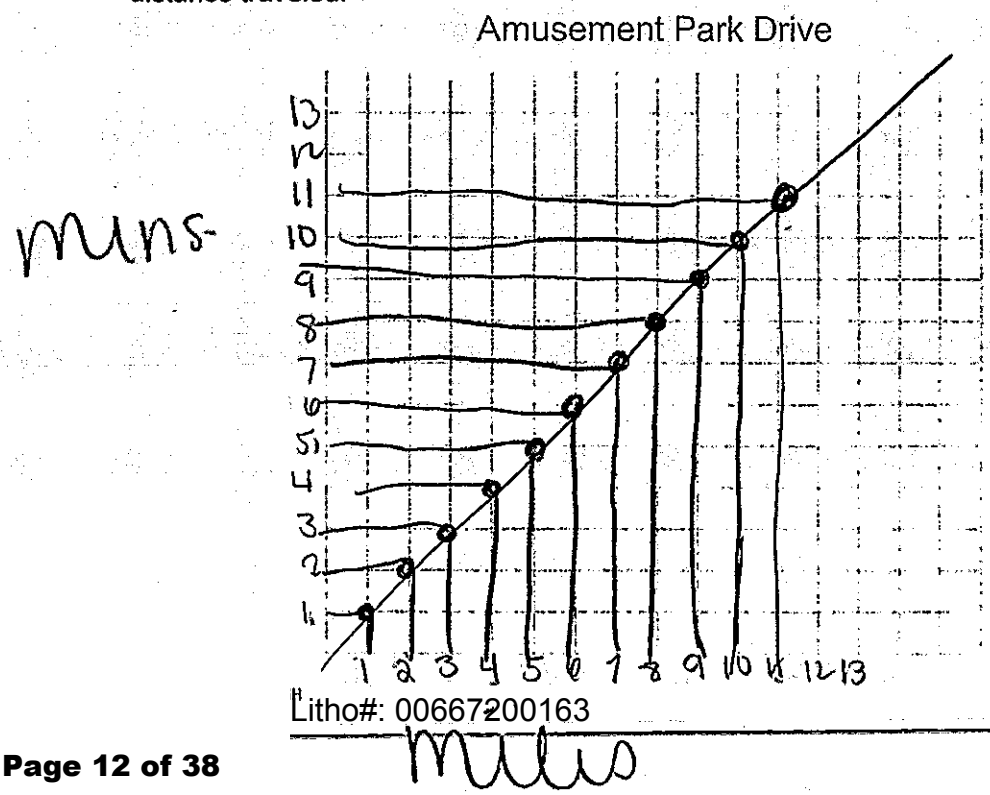
$\frac{10\text{miles}}{1} \div \frac{10\text{mins}}{1}$

in miles per hour: 60 mins

1min=1mile.

$\frac{60\text{mins}}{10\text{miles}}$ 60mph

b. Create a graph that shows the relationship between the time that Ileana drives and the distance traveled.



Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

Explain whether or not the graph represents a proportional relationship.

it is proportional because all of the points equal 1.
ex. (5,5) = 1
(6,6) = 1
(7,7) = 1 (8,8) = 1.

c. Determine the *y*-value at $x = 1$. Explain what this point represents in context of her problem.

y=mx+b

d. Explain what (0, 0) represents in this problem situation.

(0,0) is when Treana had not started yet. She is at zero minutes and zero miles.

Anchor 3 Litho 00667200163

Total Content Points: 3 (7.RP.A.2b, 7.RP.A.2a, 7.RP.A.2d(z))

Total Practice Points: 2 (MP1, MP4)

In Part A, the student correctly identifies the rate at which Ileana is driving as 1 mile per minute and as 60 miles per hour (7.RP.A.2b). In Part B, the student determines that the relationship shown is proportional by showing that for four coordinate pairs on the graph, the ratios of their *x*- to *y*-values are equal (7.RP.A.2a). The student does not identify the *y*-value in Part C and does not explain what the point represents in context of Ileana's problem (no credit for 7.RP.A.2d(x)). In Part D, the student explains that the point (0, 0) represents 0 miles driven after 0 minutes (7.RP.A.2d(z)). The student writes a second rate in Part A to represent the speed at which Ileana is driving (MP1). In Part B, the student creates a graph to represent the context given by the problem, labeling the *x*-axis with miles and the *y*-axis with minutes, scaling the axes appropriately, and beginning at a close-enough approximation of point (0, 0) (MP4). The student uses imprecise mathematical language and notation in Part B ("all of the points equal 1," "(5, 5) = 1"), demonstrating a lack of precision (no credit for MP6).

Total Awarded Points: 5 out of 7

Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

Ileana leaves her driveway and drives at a constant rate toward an amusement park. After 10 minutes, she has driven 10 miles.

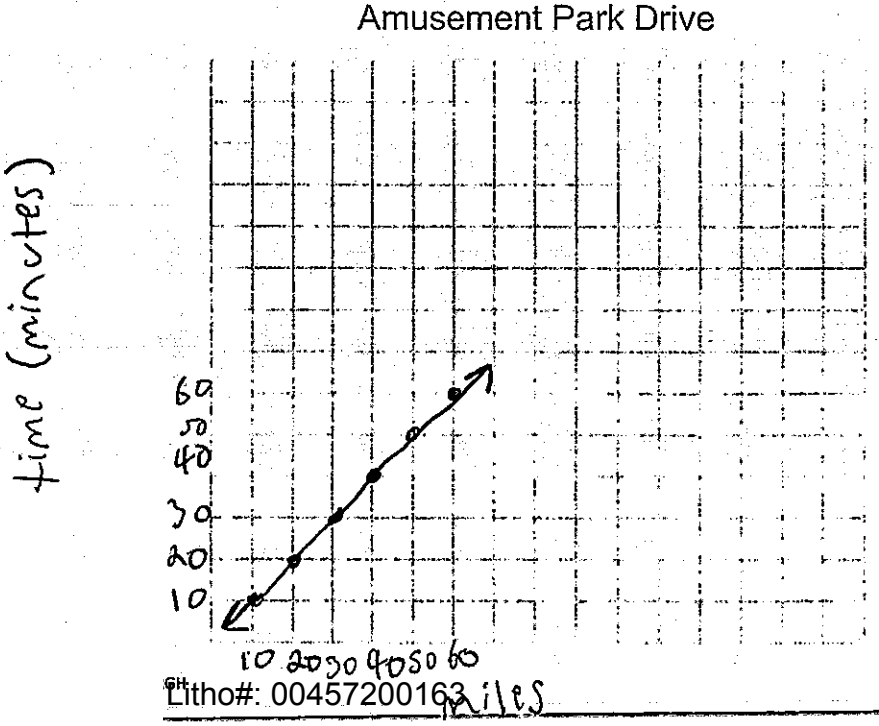
a. Determine the rate at which she is driving:

She is driving one mile per minute, I divided the amount of miles driven by the amount of time

in miles per minute: 1 mile per minute

in miles per hour: 60 miles per hour

b. Create a graph that shows the relationship between the time that Ileana drives and the distance traveled.



Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

Explain whether or not the graph represents a proportional relationship.

It does. Because for every 10 miles driven, the amount of time rises the same amount. Every mile driven takes a minute

c. Determine the *y*-value at $x = 1$. Explain what this point represents in context of her problem.

The y value would be the time taken to drive so many miles. And for every mile (x) it takes one minute (y) for each mile

d. Explain what (0, 0) represents in this problem situation.

It means no miles have been driven, and it took no time.

Anchor 4 Litho 00457200163

Total Content Points: 3 (7.RP.A.2b, 7.RP.A.2d(x), 7.RP.A.2d(z))

Total Practice Points: 2 (MP1, MP4)

In Part A, the student correctly identifies the rate at which Ileana is driving as 1 mile per minute and as 60 miles per hour (7.RP.A.2b). In Part B, the student does not succeed in determining that the relationship shown is proportional. Recognizing that the graph has a constant slope is not sufficient to determine proportionality (no credit for 7.RP.A.2a). The student explains in Part C that the point (1, 1) represents the number of miles driven for every 1 minute ("for every mile (x) it takes one minute (y) for each mile") (7.RP.A.2d(x)). In Part D, the student explains that the point (0, 0) represents 0 miles driven after 0 minutes ("no miles have been driven, and it took no time") (7.RP.A.2d(z)). The student writes a second rate in Part A to represent the speed at which Ileana is driving (MP1). In Part B, the student creates a graph, labeling the x-axis with miles and the y-axis with time in minutes and scaling the axes appropriately (MP4). Algebraic expressions and all calculations are correct; mathematical language and notation are precise. However, the student draws an arrowhead at the bottom of the graphed line in Part B, which is incorrect for the context given by the problem, and indicates insufficient precision (no credit for MP6).

Total Awarded Points: 5 out of 7

A-5a

Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

Ileana leaves her driveway and drives at a constant rate toward an amusement park. After 10 minutes, she has driven 10 miles.

a. Determine the rate at which she is driving:

in miles per minute: She drives 1 mile per minute

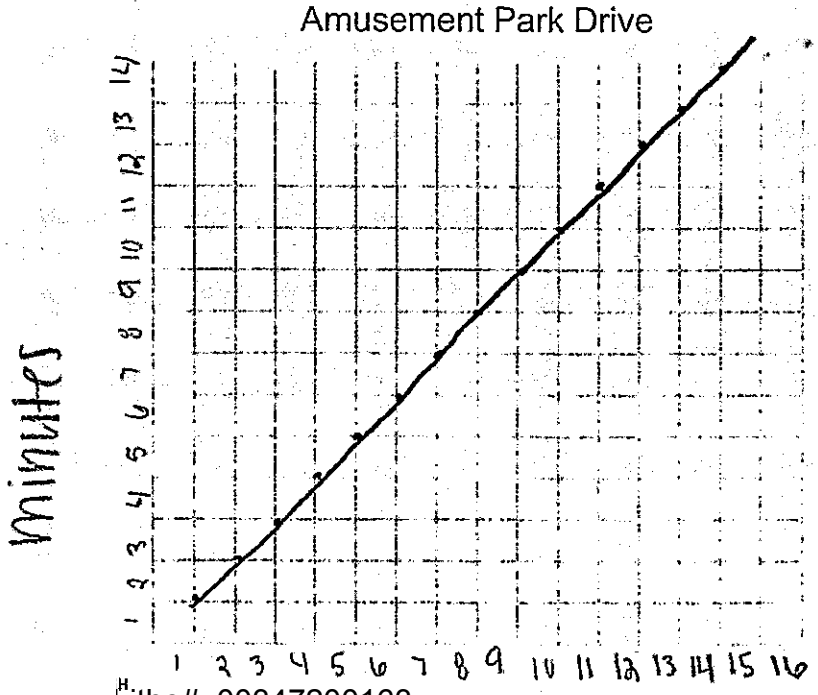
10 miles ÷ 10 minutes = 1 mile per minute

in miles per hour:

1 mile per minute × 60 minutes per hour =

60 miles per minute.

b. Create a graph that shows the relationship between the time that Ileana drives and the distance traveled.



Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

Explain whether or not the graph represents a proportional relationship.

Yes, the graph represents a proportional relationship. I goes up the same amount each time on the graph.

c. Determine the *y*-value at $x = 1$. Explain what this point represents in context of her problem.

The y value would be one because she drives 1 mile per 1 minute, and on the graph it goes up 1 as it rises one. Since the X is the same as the y, the y value is 1.

d. Explain what (0, 0) represents in this problem situation.

Well (0,0) would represent on the graph if Ileana drives 0 miles she would get there in 0 minutes.

Anchor 5 Litho 00347200163

Total Content Points: 3 (7.RP.A.2b, 7.RP.A.2d(x), 7.RP.A.2d(z))

Total Practice Points: 1 (MP1)

In Part A, the student correctly identifies the rate at which Ileana is driving as 1 mile per minute and as 60 miles per hour. While the student incorrectly refers to "miles per minute," the correct units appear in the student's calculation (7.RP.A.2b). In Part B, the student does not succeed in determining that the relationship shown is proportional. Recognizing that the graph has a constant slope is not sufficient to determine proportionality (no credit for 7.RP.A.2a). The student identifies the *y*-value as 1 in Part C and explains that the point (1, 1) represents the number of miles driven for every 1 minute ("she drives 1 mile per 1 minute") (7.RP.A.2d(x)). In Part D, the student explains that the point (0, 0) represents 0 miles driven after 0 minutes (7.RP.A.2d(z)). The student writes a second rate in Part A to represent the speed at which Ileana is driving (MP1). In Part B, the student creates a graph, labeling the *x*-axis with miles and the *y*-axis with minutes. However, the numbers on the axes are in between the lines, and the line begins somewhere between (1, 1) and (2, 2), which does not fit the context given by the problem (no credit for MP4). The student uses incorrect units in Part A ("60 miles per minute") and uses imprecise mathematical language in Part B ("I goes up the same amount each time on the graph"), demonstrating a lack of precision (no credit for MP6).

Total Awarded Points: 4 out of 7

Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

Ileana leaves her driveway and drives at a constant rate toward an amusement park. After 10 minutes, she has driven 10 miles.

a. Determine the rate at which she is driving:

in miles per minute: $\frac{10}{10} = \frac{r \cdot 10}{10}$

1 mile per minute

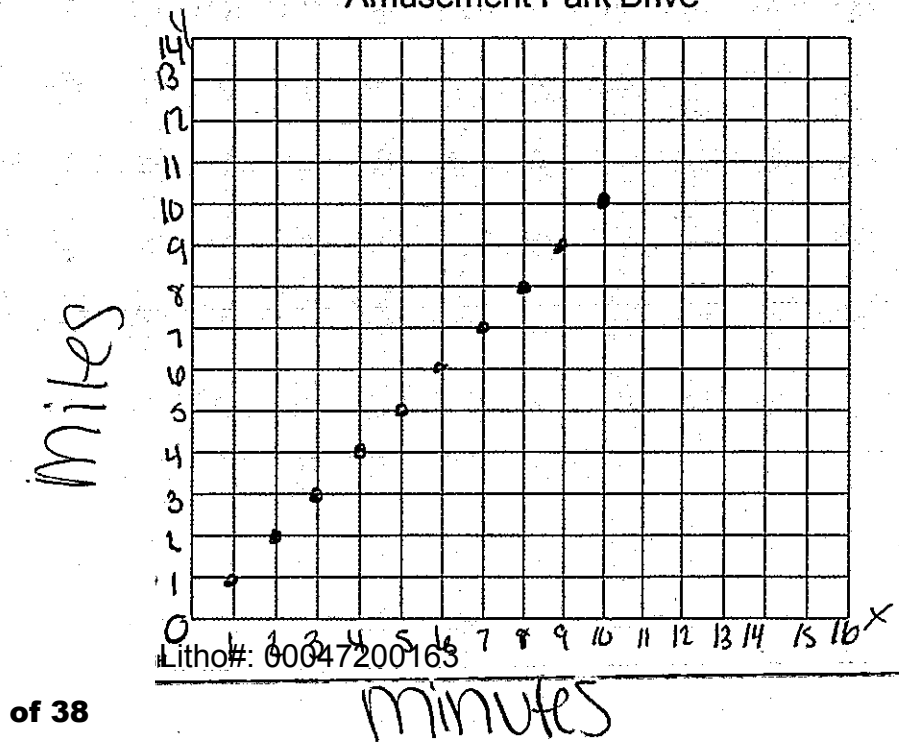
in miles per hour:

$d = 10 \cdot 10$

$100 = d$

100 miles per hour

b. Create a graph that shows the relationship between the time that Ileana drives and the distance traveled.



Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

Explain whether or not the graph represents a proportional relationship.

yes, it creates a proportion relationship because it makes a straight line and all equals a totall of 1.

c. Determine the *y*-value at $x = 1$. Explain what this point represents in context of her problem.

if x=equals 1, than the y valve is also one because it shows how many miles per minute.

d. Explain what (0, 0) represents in this problem situation.

(0,0)
x y

x equals how many minutes she drove
y equals how many miles she went

Anchor 6 Litho 00047200163

Total Content Points: 2 (7.RP.A.2d(x), 7.RP.A.2d(z))

Total Practice Points: 1 (MP1)

In Part A, the student identifies the rate at which Ileana is driving correctly as 1 mile per minute, but incorrectly as 100 miles per hour (no credit for 7.RP.A.2b). In Part B, the student does not succeed in determining that the relationship shown is proportional. Recognizing that the graph has a constant slope is not sufficient to determine proportionality, and "all equals a total of 1" is not clear enough as a reference to a constant ratio (no credit for 7.RP.A.2a). The student identifies the *y*-value as 1 in Part C and explains that the point (1, 1) represents the number of miles driven for every 1 minute ("it shows how many miles per minute") (7.RP.A.2d(x)). In Part D, the student explains that the point (0, 0) represents 0 miles driven after 0 minutes by labeling the coordinates as *x* and *y* respectively and defining the variables (7.RP.A.2d(z)). The student writes a second rate in Part A to represent the speed at which Ileana is driving. While the second rate is incorrect, this is immaterial to the practice point (MP1). In Part B, the student creates a graph, labeling the *x*-axis with minutes and the *y*-axis with miles and scaling the axes appropriately. However, the student has graphed a series of discrete points instead of a continuous line, which does not fit the context given by the problem (no credit for MP4). The student uses imprecise mathematical language in Part B ("it . . . all equals a total of 1"), demonstrating a lack of precision (no credit for MP6).

Total Awarded Points: 3 out of 7

Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

Ileana leaves her driveway and drives at a constant rate toward an amusement park. After 10 minutes, she has driven 10 miles.

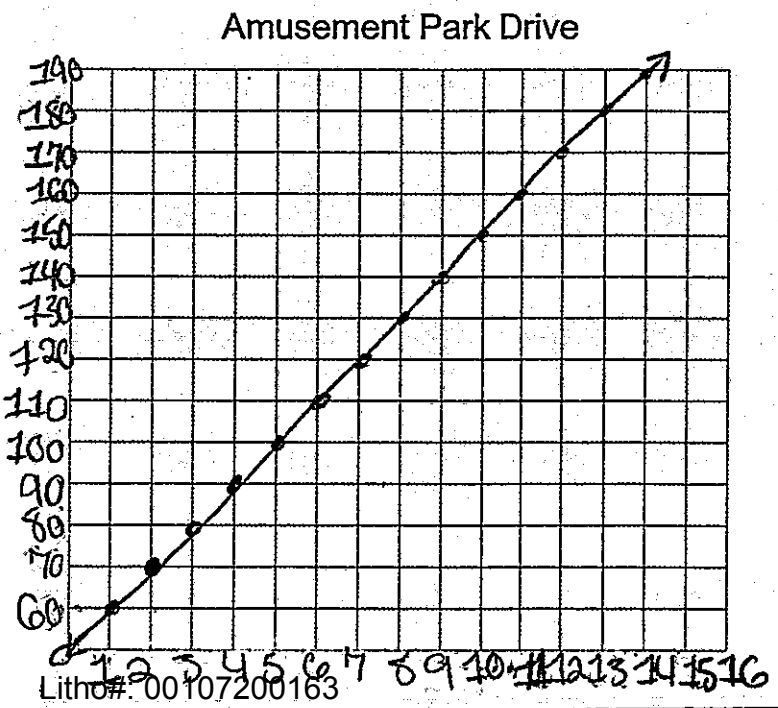
a. Determine the rate at which she is driving:

in miles per minute: 1

1 mi

in miles per hour: 600

b. Create a graph that shows the relationship between the time that Ileana drives and the distance traveled.



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Constructed Response Assessment

Amusement Park Task

Explain whether or not the graph represents a proportional relationship.

proportional

c. Determine the *y*-value at $x = 1$. Explain what this point represents in context of her problem.

$y = 1$

d. Explain what (0, 0) represents in this problem situation.

0min 0miles

Anchor 7 Litho 00107200163

Total Content Points: 2 (7.RP.A.2b, 7.RP.A.2d(z))

Total Practice Points: 1 (MP1)

In Part A, the student correctly identifies the rate at which Ileana is driving in miles per minute as 1, and as in miles per hour as 60. While the student does not provide units, the values are all that is necessary since the units are clearly defined in the prompt (7.RP.A.2b). In Part B, the student does not successfully prove that the relationship shown in the graph is proportional (no credit for 7.RP.A.2a). The student identifies the *y*-value as 1 in Part C, but does not explain what that point represents in context of Ileana's problem (no credit for 7.RP.A. 2d(x)). In Part D, the student explains that the point (0, 0) represents 0 miles driven after 0 minutes (7.RP.A.2d(z)). The student writes a second rate in Part A to represent the speed at which Ileana is driving (MP1). In Part B, the student creates a graph, but the axes are not labeled and are not scaled appropriately (no credit for MP4). While the student makes no errors in calculation, language, or notation, the work shown is insufficient to demonstrate precision. Additionally, the student draws an arrowhead at the bottom of the graphed line in Part B, which does not fit the context given by the problem (no credit for MP6).

Total Awarded Points: 3 out of 7

Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

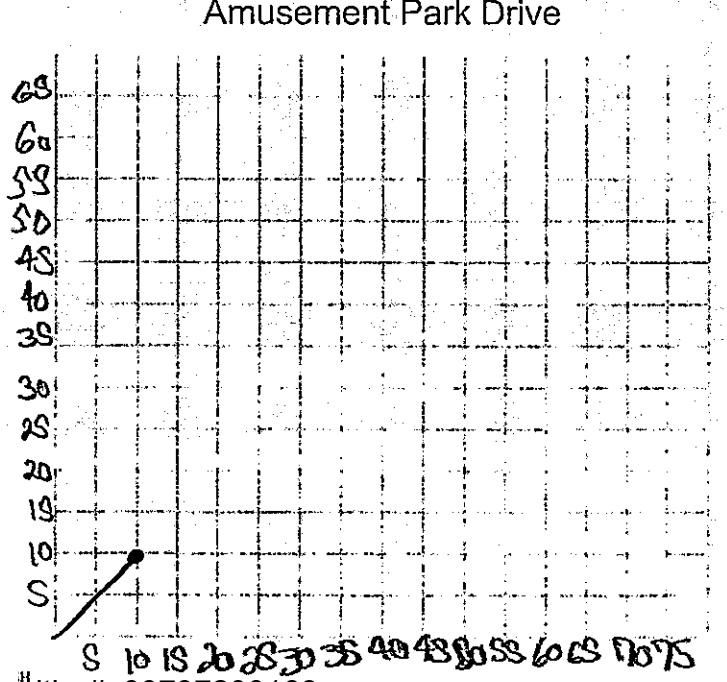
Ileana leaves her driveway and drives at a constant rate toward an amusement park. After 10 minutes, she has driven 10 miles.

a. Determine the rate at which she is driving:

in miles per minute: She is driving 1 minute per mile.

in miles per hour:

b. Create a graph that shows the relationship between the time that Ileana drives and the distance traveled.



Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

Explain whether or not the graph represents a proportional relationship.

Yes because has a constant rate of change that goes up.

c. Determine the *y*-value at $x = 1$. Explain what this point represents in context of her problem.

X=1 represents 1 mile & 1 minute.

d. Explain what (0, 0) represents in this problem situation.

(0,0) represents her still in her driveway. (0,0) would represent 0 miles & 0 minutes.

Anchor 8 Litho 00797200163

Total Content Points: 2 (7.RP.A.2b, 7.RP.A.2d(z))

Total Practice Points: 0

In Part A, the student correctly identifies the rate at which Ileana is driving as 1 mile per minute. While the student has reversed the units ("1 minute Per mile"), the answer is still correct, and this is a minor error. There are no incorrect rates given, so this receives credit (7.RP.A.2b). In Part B, the student does not succeed in determining that the relationship shown is proportional. Recognizing that the graph has a constant slope is not sufficient to determine proportionality (no credit for 7.RP.A.2a). The student does not identify a *y*-value in Part C. Stating that 'x = 1 represents 1 mile & 1 minute' is insufficient because it does not identify which is y, miles or minutes (no credit for 7.RP.A. 2d(x)). In Part D, the student explains that the point (0, 0) represents 0 miles driven after 0 minutes (7.RP.A.2d(z)). The student does not write a second rate in Part A to represent the speed at which Ileana is driving (no credit for MP1). In Part B, the student creates a graph, scaling the axes appropriately and beginning at point (0, 0). However, the axes are not labeled, so there is no way to tell whether the graph fits the context given by the problem (no credit for MP4). The student uses imprecise mathematical language in Part B ("a constant rate of change that goes up"), demonstrating a lack of precision (no credit for MP6).

Total Awarded Points: 2 out of 7

Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

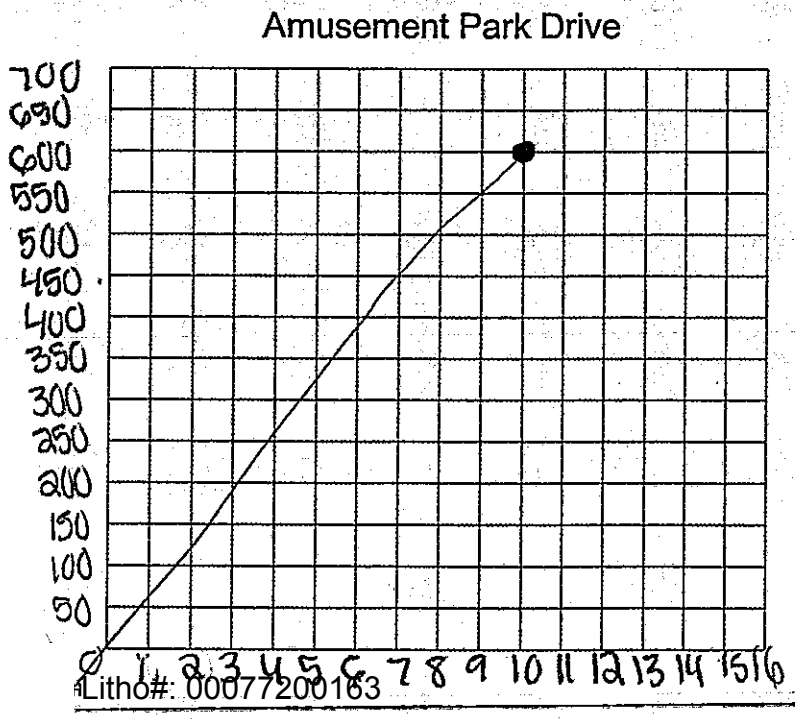
Ileana leaves her driveway and drives at a constant rate toward an amusement park. After 10 minutes, she has driven 10 miles.

a. Determine the rate at which she is driving:

in miles per minute: 10 miles every 10 mins

in miles per hour: 600 miles every hour

b. Create a graph that shows the relationship between the time that Ileana drives and the distance traveled.



A-9b

Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

Explain whether or not the graph represents a proportional relationship.

Yes, it passes the vertical line test

c. Determine the *y*-value at $x = 1$. Explain what this point represents in context of her problem.

d. Explain what (0, 0) represents in this problem situation.

The start of her drive

Anchor 9 Litho 00077200163

Total Content Points: 1 (7.RP.A.2d(z))

Total Practice Points: 1 (MP1)

In Part A, the student incorrectly identifies the rate at which Ileana is driving as 10 miles per 10 minutes and as 600 miles per hour (no credit for 7.RP.A.2b). In Part B, the student does not succeed in determining that the relationship shown is proportional. The vertical line test is not sufficient to determine proportionality (no credit for 7.RP.A.2a). The student does not identify a *y*-value in Part C (no credit for 7.RP.A.2d(x)). In Part D, the student explains that the point (0, 0) represents "The start of her drive," which is applicable to the problem situation and implies both distance and time (7.RP.A.2d(z)). Although neither rate is correct, the student writes a second rate in Part A to represent the speed at which Ileana is driving (MP1). In Part B, the student creates a graph, scaling the axes appropriately. However, the line passes through (0, 0) instead of originating there, and the axes are not labeled, so there is no way to tell whether the graph fits the context given by the problem (no credit for MP4). While the student makes no errors in calculation, language, or notation, there is insufficient work shown to demonstrate precision (no credit for MP6).

Total Awarded Points: 2 out of 7

Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

Ileana leaves her driveway and drives at a constant rate toward an amusement park. After 10 minutes, she has driven 10 miles.

a. Determine the rate at which she is driving:

in miles per minute:

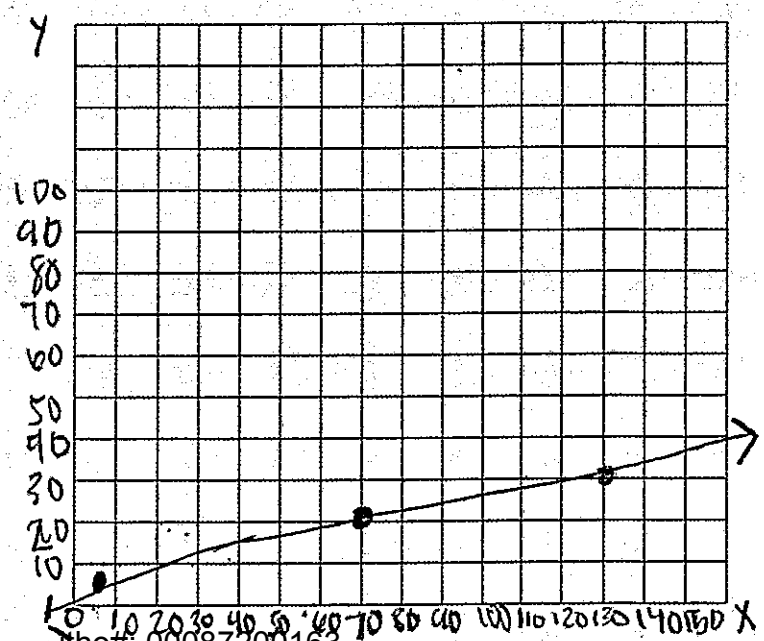
$\frac{10}{10} = 1$ mile per minute

in miles per hour:

$\frac{10}{60} = \frac{1 \text{ mile}}{6 \text{ minutes}}$ Ileana went 1 mile in 6 minutes

b. Create a graph that shows the relationship between the time that Ileana drives and the distance traveled.

Amusement Park Drive



2

Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

Explain whether or not the graph represents a proportional relationship.

Yes, because it goes up at a constant rate of change.

c. Determine the *y*-value at $x = 1$. Explain what this point represents in context of her problem.

X=1 is the y intercept it means where she started at

d. Explain what (0, 0) represents in this problem situation.

It is a corradinate pair that she used to find the constant rate

Anchor 10 Litho 00087200163

Total Content Points: 0

Total Practice Points: 1 (MP1)

In Part A, the student identifies the rate at which Ileana is driving correctly as 1 mile per minute, but incorrectly as 1 mile per 6 minutes (no credit for 7.RP.A.2b). In Part B, the student does not succeed in determining that the relationship shown is proportional. Recognizing that the graph has a constant slope is not sufficient to determine proportionality (no credit for 7.RP.A.2a). In Part C, the point (1, 1) does not represent either "the *y* intercept" or "where she started at" (no credit for 7.RP.A.2d(x)). In Part D, the student does not explain that the point (0, 0) represents 0 miles driven after 0 minutes (no credit for 7.RP.A.2d(z)). The student writes a second rate in Part A to represent the speed at which Ileana is driving. Although the second rate is incorrect, it indicates that the student has made sense of the task (MP1). In Part B, the student creates a graph, scaling the axes appropriately. However, the axes are not labeled, so there is no way to tell whether the graph fits the context given by the problem (no credit for MP4). The student draws an arrowhead at the bottom of the graphed line in Part B, which is incorrect notation, as it indicates that Ileana can travel negative distance and negative time (no credit for MP6).

Total Awarded Points: 1 out of 7

Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

Ileana leaves her driveway and drives at a constant rate toward an amusement park. After 10 minutes, she has driven 10 miles.

a. Determine the rate at which she is driving:

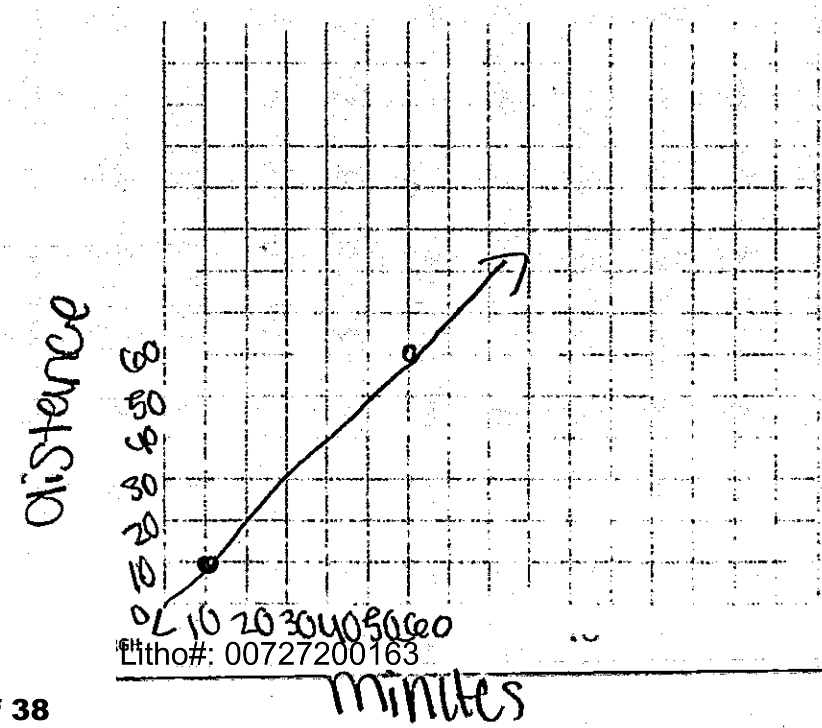
D=r·t $\frac{10}{10}=\frac{r\cdot 10}{10}$

in miles per minute: 10 minutes

in miles per hour: 1 hour

b. Create a graph that shows the relationship between the time that Ileana drives and the distance traveled.

Amusement Park Drive



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Grade 7 — 2013–14, Phase III, Stage 2 Pilot
Constructed Response Assessment

Amusement Park Task

Explain whether or not the graph represents a proportional relationship.

yes because 60 minutes equals an hour, and 6 minutes equals 360 seconds

c. Determine the *y*-value at $x = 1$. Explain what this point represents in context of her problem.

The points represent the distance she traveled in however many minutes

d. Explain what (0, 0) represents in this problem situation.

It means their is no graph.

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Total Content Points: 0

Total Practice Points: 0

The student does not identify any rates in Part A (no credit for 7.RP.A.2b). In Part B, the student does not succeed in determining that the relationship shown is proportional (no credit for 7.RP.A.2a). The student does not identify a *y*-value in Part C (no credit for 7.RP.A.2d(x)). In Part D, the student does not explain that the point (0, 0) represents 0 miles driven after 0 minutes (no credit for 7.RP.A.2d(z)). The student does not write any rates in Part A to represent the speed at which Ileana is driving (no credit for MP1). In Part B, the student creates a graph, labeling the *x*-axis with minutes and scaling the axes appropriately. However, the student has inappropriately labeled the *y*-axis as "distance" without specifying the units (no credit for MP4). While the student makes no errors in calculation, language, or notation, many apparent non sequiturs and irrelevant responses mean that there is insufficient relevant work shown to demonstrate precision (no credit for MP6).

Total Awarded Points: 0 out of 7