



A

Student Name _____

School Name _____

District Name/LEA _____

Grade 8
Mathematics
Performance Based Assessment
Practice Test

B

Last Name										First Name										MI
<input type="radio"/>																				
A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H
I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J
K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K
L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z

School Use Only

F State Student Identifier

<input type="radio"/>									
A	A	A	A	A	A	A	A	A	A
B	B	B	B	B	B	B	B	B	B
C	C	C	C	C	C	C	C	C	C
D	D	D	D	D	D	D	D	D	D
E	E	E	E	E	E	E	E	E	E
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G	G	G	G	G	G	G	G	G	G
H	H	H	H	H	H	H	H	H	H
I	I	I	I	I	I	I	I	I	I
J	J	J	J	J	J	J	J	J	J
K	K	K	K	K	K	K	K	K	K
L	L	L	L	L	L	L	L	L	L
M	M	M	M	M	M	M	M	M	M
N	N	N	N	N	N	N	N	N	N
O	O	O	O	O	O	O	O	O	O
P	P	P	P	P	P	P	P	P	P
Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
R	R	R	R	R	R	R	R	R	R
S	S	S	S	S	S	S	S	S	S
T	T	T	T	T	T	T	T	T	T
U	U	U	U	U	U	U	U	U	U
V	V	V	V	V	V	V	V	V	V
W	W	W	W	W	W	W	W	W	W
X	X	X	X	X	X	X	X	X	X
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Z	Z	Z	Z	Z	Z	Z	Z	Z	Z
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3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

Place the Student ID Label Here

D Gender

Female Male

E Date of Birth

Day	Month	Year
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	Jan	0
2	Feb	1
3	Mar	2
4	Apr	3
5	May	4
6	Jun	5
7	Jul	6
8	Aug	7
9	Sep	8
<input type="radio"/>	Oct	9
<input type="radio"/>	Nov	<input type="radio"/>
<input type="radio"/>	Dec	<input type="radio"/>

Directions for Completing the Answer Grids

1. Work the problem and find an answer.
2. Write your answer in the boxes at the top of the grid.
 - Print only one digit or symbol in each box. You may not need all the boxes to enter an answer, but do not leave a blank box in the middle of an answer.
3. Under each box in which you wrote your answer, fill in the bubble that matches the number or symbol you wrote above.
 - Fill in one and ONLY one bubble for each box. Do not fill in a bubble under an unused box.
 - Fill in each bubble by making a solid mark that completely fills the circle.
 - Fractions cannot be entered into an answer grid and will not be scored. Enter fractions as decimals.
4. See below for examples on how to correctly complete an answer grid.

To answer -3 in a question, fill in the answer grid as follows:

-	3				
<input checked="" type="radio"/>	<input type="radio"/>				
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
<input checked="" type="radio"/>	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

To answer $.75$ in a question, fill in the answer grid as follows:

.	7	5			
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	<input checked="" type="radio"/>	5	5	5
6	6	6	6	6	6
7	<input checked="" type="radio"/>	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

Unit 1 - Section 1 (Non-Calculator)

This unit has two sections: a non-calculator and a calculator section.

You will now take the first section of this unit in which you may not use a calculator. You will not be allowed to return to the non-calculator section of the test after you have started the calculator section. You will need to finish both sections within the allotted testing time.

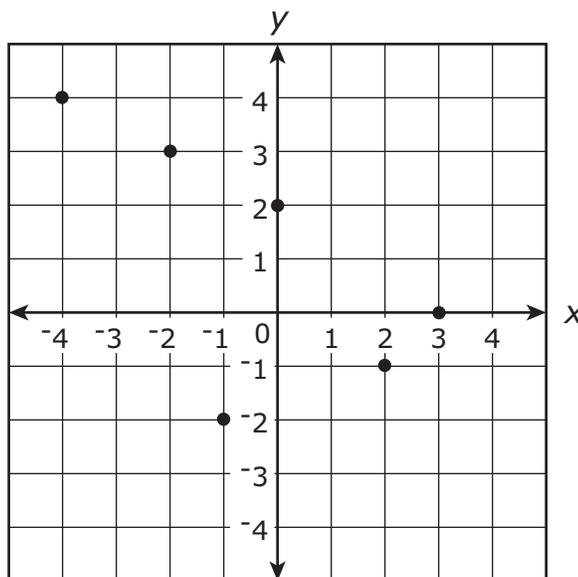
Once you finish the non-calculator section, read the directions in your Test Booklet on how to continue.

3. Which of these equations represent functions where x is the input and y is the output?

Select **each** correct answer.

- (A) $x = 2$
- (B) $y = 2$
- (C) $y = 2x$
- (D) $x = 2y$
- (E) $x + y = 2$

4. The graph represents y as a function of x .

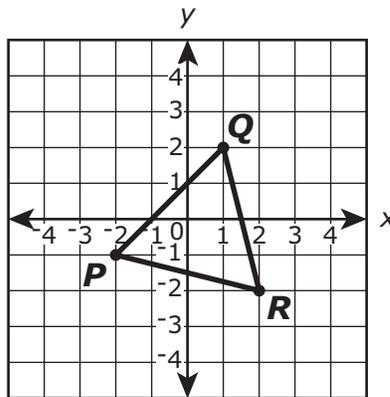


Which additional point can be plotted so that the graph continues to represent y as a function of x ?

- (A) (0, 1)
- (B) (2, 2)
- (C) (3, 4)
- (D) (4, 2)

Use the information provided to answer Part A and Part B for question 6.

Triangle PQR is shown on the coordinate plane.



Triangle PQR is rotated 90° counterclockwise about the origin to form the image triangle $P'Q'R'$ (not shown). Then triangle $P'Q'R'$ is reflected across the x -axis to form triangle $P''Q''R''$ (not shown).

6. Part A

What are the signs of the coordinates (x, y) of point P' ?

- (A) Both x and y are positive.
- (B) x is negative and y is positive.
- (C) Both x and y are negative.
- (D) x is positive and y is negative.

Part B

What are the signs of the coordinates (x, y) of point Q'' ?

- (A) Both x and y are positive.
- (B) x is negative and y is positive.
- (C) Both x and y are negative.
- (D) x is positive and y is negative.

9. Consider the system of equations.

$$\begin{cases} y = 2x + 2 \\ y = 6x + 2 \end{cases}$$

Which statements are true about the system of equations?

Select **each** correct answer.

- Ⓐ The graph of the system consists of lines that have no points of intersection.
- Ⓑ The graph of the system consists of lines that have exactly one point of intersection.
- Ⓒ The graph of the system consists of lines that have more than one point of intersection.
- Ⓓ The system has no solution.
- Ⓔ The system has exactly one solution.
- Ⓕ The system has more than one solution.

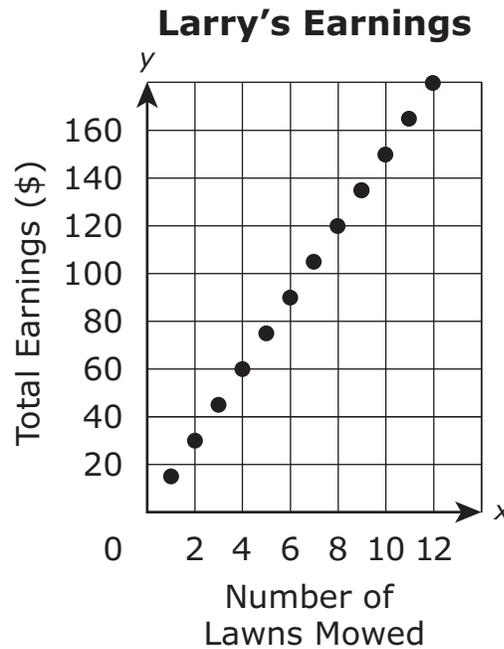


Unit 1 - Section 2 (Calculator)

Once you have received your calculator, continue with the calculator section.



11. Larry and Mark each mow lawns in their neighborhoods. Information about each person's earnings is shown.



Mark's Earnings

- Mark earns \$60 for mowing 3 lawns.
- Mark earns \$300 for mowing 15 lawns.

For both Larry and Mark, the number of dollars earned is proportional to the number of lawns mowed.

Which statement correctly compares the amount of money Larry and Mark each earn per lawn?

- (A) Larry earns \$2 more than Mark earns per lawn.
- (B) Larry earns \$5 less than Mark earns per lawn.
- (C) Larry earns \$10 more than Mark earns per lawn.
- (D) Larry earns \$15 less than Mark earns per lawn.



- 13.** Two utility companies sell electricity in units of kilowatt-hours. The cost of electricity for company P is shown in the table. The cost of electricity for company M can be found by using the equation shown, where y represents the total cost in dollars for x kilowatt-hours of electricity.

Electricity Costs	
Company P	
Number of Kilowatt-hours	Total Cost (dollars)
1,250	150.00
1,650	198.00

Company M

$y = 0.15x$

- Use the information provided to find the unit rate, in dollars per kilowatt-hour, for each company. Show your work or explain your answers.
- Find the total cost, in dollars, of buying 2,375 kilowatt-hours of electricity from the **least** expensive company.

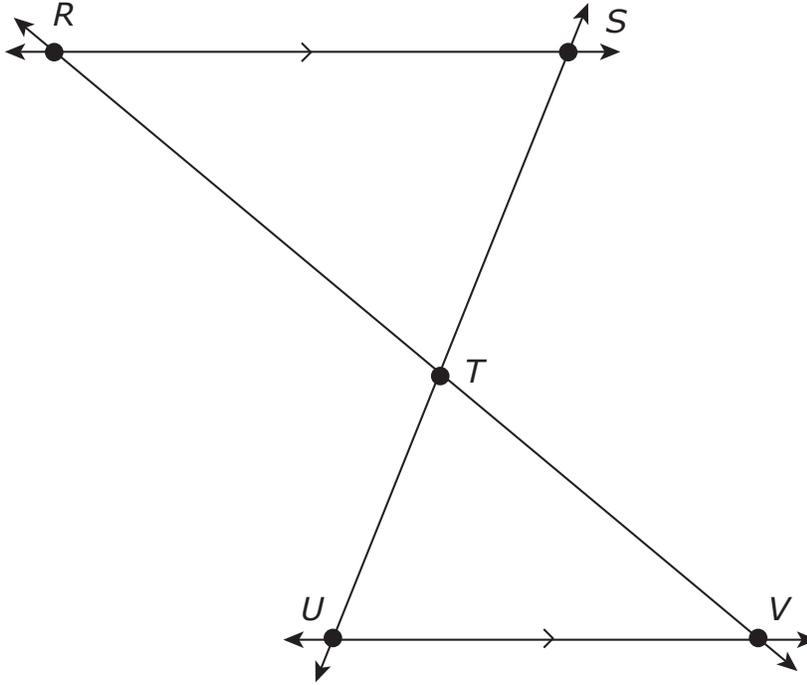
Enter your answers and your work or explanation in the space provided.





Use the information provided to answer Part A and Part B for question 14.

The figure shows line RS parallel to line UV . The lines are intersected by 2 transversals. All lines are in the same plane.





14. Part A

Explain why triangle RTS is similar to triangle VTU .

Enter your explanation in the space provided.

Large empty rectangular box for writing the explanation.

PLEASE DO NOT WRITE IN THIS AREA



SERIAL #



Part B

Given that $m\angle STV = 108^\circ$, determine $m\angle SRT + m\angle TUV$. Show your work or explain your answer.

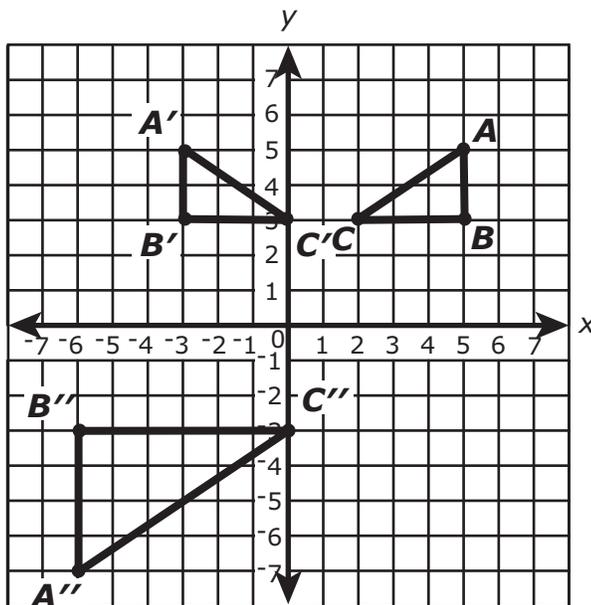
Enter your answer and your work or explanation in the space provided.



Use the information provided to answer Part A and Part B for question 15.

In the coordinate plane shown, triangle ABC is congruent to triangle $A'B'C'$.

Triangle $A'B'C'$ is similar to triangle $A''B''C''$.





15. Part A

Describe a single transformation that shows that triangle $A'B'C'$ is congruent to triangle ABC . Include all the necessary information to complete the transformation.

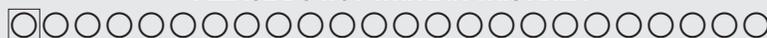
Enter your description in the space provided.



Part B

Describe a sequence of transformations that shows that triangle $A''B''C''$ is similar to triangle $A'B'C'$. Include all the necessary information to complete each transformation.

Enter your description in the space provided.





Use the information provided to answer Part A and Part B for question 16.

The owner of a computer store is offering a discount on a computer sold in the store.

Computer Sale!

Original Price: \$598.00

25% off original price

8% tax applied after discount

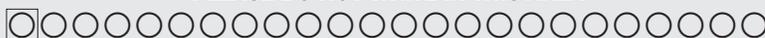


16. Part A

The owner offers a payment plan where the total cost of the computer is paid in 6 equal monthly payments.

- Determine the amount of each monthly payment.
- Show your work or explain your answer.

Enter the monthly payment and your work or explanation in the space provided.





Part B

A different computer is advertised as 40% off of the original price. After the discount, the tax is \$44.64.

- Determine the total price of this computer after the discount and tax are applied.
- Show your work or explain your answer.
- Determine the original price of this computer.
- Show your work or explain your answer.

Enter your answers and your work or explanations in the space provided.



Use the information provided to answer Part A through Part C for question 17.

Martin is considering the expressions $\frac{1}{2}(7x + 48)$ and $-\left(\frac{1}{2}x - 3\right) + 4(x + 5)$. He wants to know if one expression is greater than the other for all values of x .

17. Part A

Which statement about the relationship between the expressions is true?

- Ⓐ The value of the expression $\frac{1}{2}(7x + 48)$ is always equal to the value of the expression $-\left(\frac{1}{2}x - 3\right) + 4(x + 5)$.
- Ⓑ The value of the expression $\frac{1}{2}(7x + 48)$ is always less than the value of the expression $-\left(\frac{1}{2}x - 3\right) + 4(x + 5)$.
- Ⓒ The value of the expression $\frac{1}{2}(7x + 48)$ is always greater than the value of the expression $-\left(\frac{1}{2}x - 3\right) + 4(x + 5)$.
- Ⓓ The value of the expression $\frac{1}{2}(7x + 48)$ is sometimes greater than and sometimes less than the value of the expression $-\left(\frac{1}{2}x - 3\right) + 4(x + 5)$.





Part B

Show or explain how you found your answer to Part A.

Enter your work or your explanation in the space provided.

Part C

Write a new expression that always has a greater value than both of these expressions.

Enter your expression in the space provided.



Based on the information in the table and the graph, compare the approximate miles per gallon of car M to car P. Show your work or explain your answers.

Enter your answers and your work or explanations in the space provided.





You have come to the end of the calculator section in Unit 1 of the test.

- Review your answers in the calculator section of Unit 1 only.
- Then, close your test booklet and raise your hand to turn in your test materials.



PLEASE DO NOT WRITE IN THIS AREA



SERIAL #



**Grade 8
Mathematics
Test Booklet**

*Performance Based Assessment
Practice Test*