

MATHEMATICS

- The Grade 8 Mathematics EOG assessment consists of a total of 73 items.
- You will answer a variety of item types on the test. Some of the items are selected response (multiple-choice), which means you choose the correct answer from four choices. Some items will ask you to write your response.
- The test will be given in two sections.
 - You may have up to 85 minutes per section to complete Sections 1 and 2.
 - The test will take about 120 to 170 minutes.

Content

The Grade 8 Mathematics EOG assessment will measure the Grade 8 standards that are described at www.georgiastandards.org.

The content of the assessment covers standards that are reported under these domains:

- Numbers, Expressions, and Equations
- Algebra and Functions
- Geometry
- Statistics and Probability

Example Item 1

Which of these is the closest approximation to the value of $\sqrt{97}$?

- A. 9
- B. 10
- C. 48
- D. 49

Example Item 2

When a linear function is graphed, it passes through the points $(-1, 1)$, $(1, 5)$, and $(3, 9)$.

Part A: What is the rate of change for the function?

Part B: Does the equation $y = 2x + 3$ represent the function? Explain your reasoning. (For this practice, use the back of this sheet of paper.)

Example Item 3

Part A: Is $0.\overline{571428}$ the decimal equivalent of $\frac{4}{7}$? Explain your reasoning.

Part B: Is the number in Part A rational or irrational? Explain your reasoning?

Part C: What is $\overline{0.166}$ written as a fraction?

Part D: Is the number in Part C rational or irrational? Explain your reasoning.

Example Item 4

Between which two integers is the value of $\sqrt{21}$?

- A. 0 to 1
- B. 4 to 5
- C. 6 to 7
- D. 10 to 11

Example Item 5

A grain of sand has a mass of approximately 6×10^{-3} grams. Earth has a mass of approximately 6×10^{28} grams.

How many times smaller is the mass of the grain of sand than the mass of the Earth?

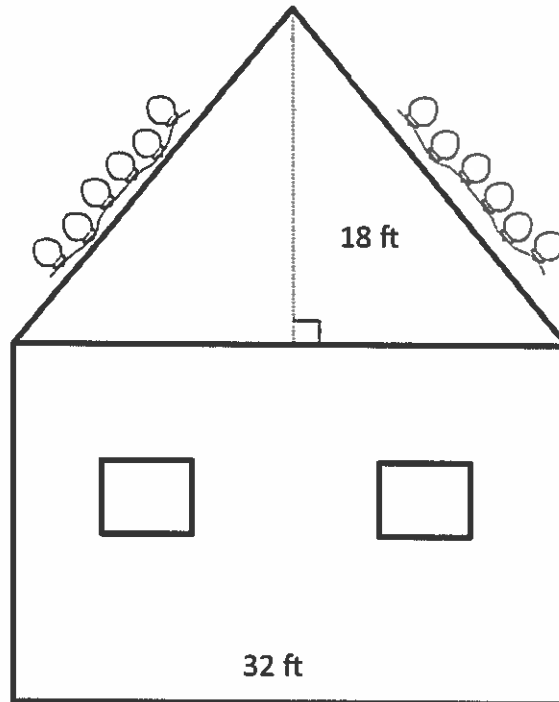
- A. 1×10^{-54}
- B. 1×10^{-14}
- C. 1×10^{26}
- D. 1×10^{30}

Example Item 6

Part A: Write the expression $7^{-3} \cdot 7^6$ as a fraction or integer.

Part B: Explain how you found your answer.

Example Item 7



Jenna wants to hang outdoor stringed lights on her house along the roof line and horizontally across, connecting the ends of the roof line to create a triangle.

What is the approximate total length, in feet, of lights that she needs to create one triangle?

- A. 48 feet
- B. 64 feet
- C. 80 feet
- D. 98 feet

Example Item 8

For a classroom party, there are 12 bottles of fruit punch. Each bottle is filled with 850 cubic centimeters of punch. The fruit punch will be served in cone-shaped paper cups that are 7 centimeters across and 12 centimeters tall.

How many completely full cone-shaped cups of the punch can be poured?

- A. 16
- B. 66
- C. 232
- D. 265

Example Item 9

Consider the four tables of values.

A.

x	y
3	0
14	11
8	3

B.

x	y
12	16
6	8
-4	16

C.

x	y
4	-7
-7	-15
-4	23

D.

x	y
-31	-63
42	14
-31	25

Part A: Which table models a relationship that is NOT a function?

Part B: Why is the relationship in the answer to Part A NOT a function? Explain your reasoning. (For this practice, use a separate sheet of paper.)

Example Item 10

Which equation represents a nonlinear function?

- A. $y = 3x^3$
- B. $3x + 2y = 10$
- C. $y = 15.3$
- D. $y = 1/4x - 2$

Example Item 11

This table of values represents a linear function.

x	y
0	80
4	60
8	40
12	20

Part A: Is the rate of change of this function -5? Explain how you know.

Part B: What is the initial value of this function?

Example Item 16

Select THREE equations whose graphs are straight lines.

- A. $y = 7$
- B. $y = \frac{1}{x}$
- C. $y = \frac{1}{2}x$
- D. $3x + y = 10$
- E. $y = x^2 - 2$
- F. $x^2 + y^2 = 1$

Example Item 17

The two-way table shows some survey results from when 100 Georgia residents were asked whether they were born in Georgia.

Georgia Residents

	Born in Georgia	Not Born in Georgia	Total
Female			66
Male	16		
Total		47	

There are values missing from the two-way table. You will need to determine the missing values from the two-way table.

PART A

How many of the males surveyed were not born in Georgia?

- A. 16
- B. 18
- C. 29
- D. 34

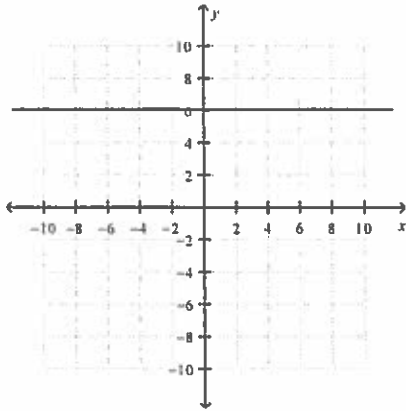
PART B

Select TWO statements that are true about the data.

- A. There were more males born in Georgia than there were females born in Georgia.
- B. More than half of all residents surveyed were born in Georgia.
- C. More males were born in Georgia than were not born in Georgia.
- D. More females were not born in Georgia than were born in Georgia.
- E. There were more females not born in Georgia than there were males not born in Georgia.

Unit 5 Progression 1 Assessment
 Focus Standard(s): MGSE.8.EE8
 Grade 8

Dana graphed one equation from a system on the coordinate plane below:

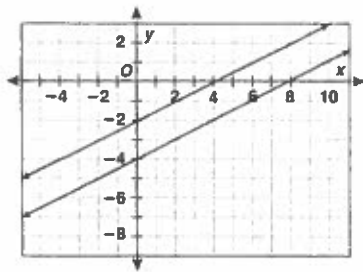


The second equation in the system is $2x + 2y = 12$.

1. Which ordered pair is the solution to the system of equations?

- A. (-3, -6) B. (0, 6)
 C. (2, 6) D. (3, 6)

2. How many solutions does the system graphed below have?



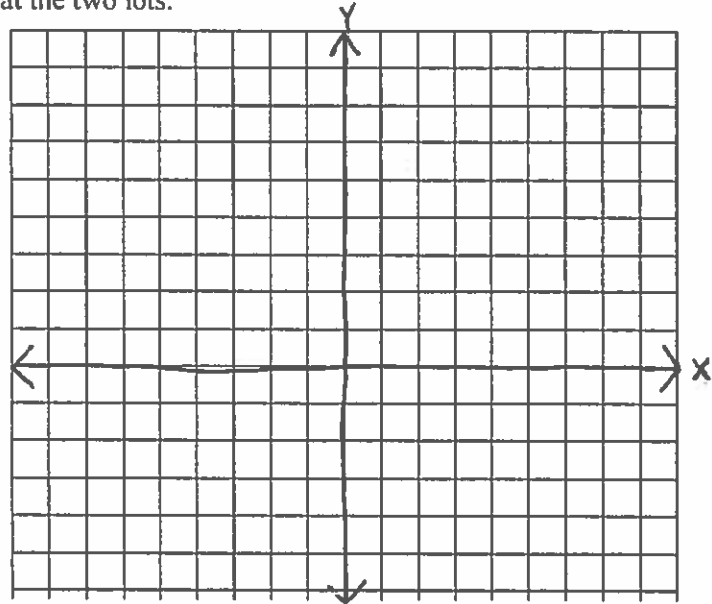
- A. None B. 1
 C. 2 D. Infinitely Many

Use the scenario below to answer questions 3-5.
 Michael is trying to decide where to park while he visits his father's office. Park-4-Less Garage charges a \$2 flat fee and \$4 per hour. Deal-Park charges \$5 per hour

3. Which system of equations could be used to represent the scenario?

- A. $\begin{cases} 2x + 4y = 5 \\ x + y = 5 \end{cases}$
 B. $\begin{cases} y = 2x + 4 \\ x + y = 5 \end{cases}$
 C. $\begin{cases} y = 4x + 2 \\ y = 5x \end{cases}$
 D. $\begin{cases} y = 2x + 4 \\ y = 5x + 2 \end{cases}$

4. Use the coordinate plane below to graph the system of equations that represents cost of parking at the two lots.



5. After how many hours will the cost of parking in either garage be the same?

- A. 2 hours B. 4 hours
 C. 5 hours D. 10 hours