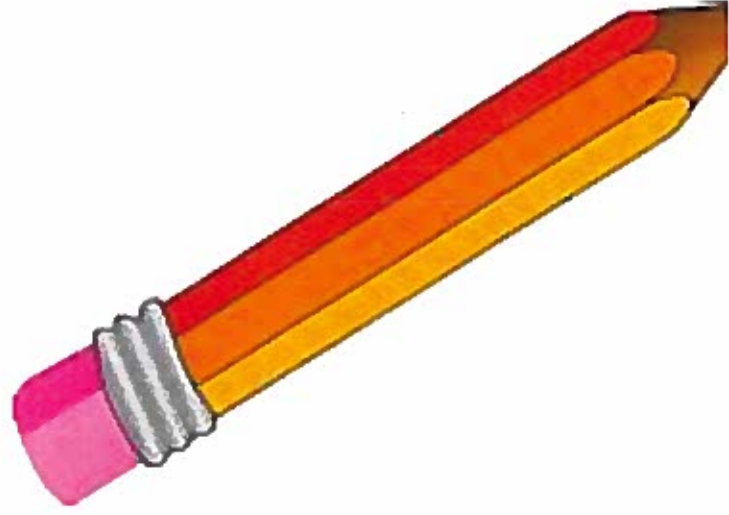


# 8<sup>th</sup> Grade Math Packet



Name: \_\_\_\_\_

Parent

Signature: \_\_\_\_\_



**Icahn Charter Schools Weekly Math Learning Plan**  
**Week of March 23, 2020 - March 27, 2020**  
**Grade 8**

Everyday you will be assigned 2 lessons to complete for Math. Your teacher will check in with you on how you did and provide feedback on your week.

**Minute Math:** Practice your math fluency with a sibling, parent, or over facetime with a friend! Complete the Minute Math practice page for the day. Time yourself to see how many problems you can complete in 1 minute. Then finish the rest in pen!

**Math Action Plan:** Complete the Math Action Plan (MAP) Practice set for the day. Remember all the great mathematician's strategies you have learned already during MAP! Remember to show your plan and all of your work. After feedback from your teacher, correct the ones you got wrong in pen.

**Monday: March 23, 2020**

Minute Math: Minute 1

Math Action Plan: IW23 Day 1

*Show your work on paper! Then submit your answers on this form.*

**Tuesday: March 24, 2020**

Minute Math: Minute 2

Math Action Plan: IW22 Day 3

*Show your work on paper! Then submit your answers on this form.*

**Wednesday: March 25, 2020**

Minute Math: Minute 3

Math Action Plan: IW24 Day 1 "Part 1"

*Show your work on paper! Then submit your answers on this form.*

**Thursday: March 26, 2020**

Minute Math: Minute 4

Math Action Plan: IW24 Day 1 "Stamina Continued"

*Show your work on paper! Then submit your answers on this form.*

**Friday: March 27, 2020**

Minute Math: Minute 5

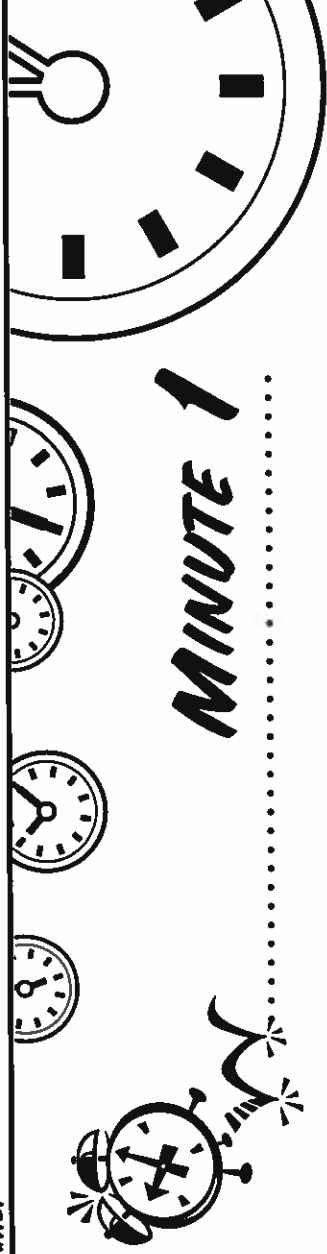
Math Action Plan: IW24 Day 2

*Show your work on paper! Then submit your answers on this form.*



MONDAY - March 23, 2020

NAME: \_\_\_\_\_



1.  $2^3 =$

2.  $27 \div 9 + 3 =$

3. If  $m + 40 = 75$ , then  $m =$  \_\_\_\_\_.

4. Number of letters in the alphabet minus the number of months in a year? \_\_\_\_\_

5.  $(4 + 2)^2 =$

6. Write  $3 \cdot 3 \cdot 3 \cdot 3 \cdot 3$  in exponential form. \_\_\_\_\_

7.  $8 \cdot 9 =$

8.  $\frac{48}{6} =$

9.  $1^{10} =$

10.  $5 + (4)(3) =$

**BONUS!**

Farmer Doug has some pigs and chickens.

One day he counted 24 legs and 7 heads in the barnyard.

How many of each animal did Farmer Doug count? \_\_\_\_\_





## Network 8th MAP 2020 IW 23 D1

Directions: Read the question. Fill in the bubble next to the corresponding question number on your answer sheet.

<u>Sample Question</u>	<u>Sample Answer Sheet</u>
<b>Sample Item Not Available</b>	<ol style="list-style-type: none"><li>1. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>2. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>3. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>4. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>5. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li></ol>

## For Question 1:

### Session 1

#### TIPS FOR TAKING THE TEST

Here are some suggestions to help you do your best:

- Read each question carefully and think about the answer before making your choice.
- You have been provided with mathematics tools (a ruler, a protractor, and a calculator) and a reference sheet to use during the test. It is up to you to decide when each tool and the reference sheet will be helpful. You should use mathematics tools and the reference sheet whenever you think they will help you to answer the question.



# Grade 8 Mathematics Reference Sheet

## CONVERSIONS

1 inch = 2.54 centimeters  
1 meter = 39.37 inches  
1 mile = 5,280 feet  
1 mile = 1,760 yards  
1 mile = 1.609 kilometers

1 kilometer = 0.62 mile  
1 pound = 16 ounces  
1 pound = 0.454 kilogram  
1 kilogram = 2.2 pounds  
1 ton = 2,000 pounds

1 cup = 8 fluid ounces  
1 pint = 2 cups  
1 quart = 2 pints  
1 gallon = 4 quarts  
1 gallon = 3.785 liters  
1 liter = 0.264 gallon  
1 liter = 1,000 cubic centimeters

## FORMULAS

Triangle

$$A = \frac{1}{2}bh$$

Parallelogram

$$A = bh$$

Circle

$$A = \pi r^2$$

Circle

$$C = \pi d \text{ or } C = 2\pi r$$

General Prisms

$$V = Bh$$

Cylinder

$$V = \pi r^2 h$$

Sphere

$$V = \frac{4}{3}\pi r^3$$

Cone

$$V = \frac{1}{3}\pi r^2 h$$

Pythagorean Theorem

$$a^2 + b^2 = c^2$$

**1** Which equation describes a linear function?

A  $V = S^3$

C  $Y = (2)^x$

B  $Y = \left(\frac{1}{6}\right)x$

D  $A = \pi r^2$

The following questions are not about a passage.

**2** What is the solution to the system of equations  $2x + 3y = 40$  and  $y = x + 10$ ?

A  $x = 2$ ;  $y = 12$

B  $x = 4$ ;  $y = 14$

C  $x = 12$ ;  $y = 2$

D  $x = 14$ ;  $y = 4$

**3** Express the number 0.0000000025 in scientific notation.

A  $2.5 \times 10^{10}$

B  $25 \times 10^{-10}$

C  $2.5 \times 10^{-10}$

D  $2.5 \times 10^{-11}$

**4** Which of these equations is correct?

A  $(4.6 \times 10^5) - (2.1 \times 10^4) = 250,000$

B  $(8.8 \times 10^8) - (6.2 \times 10^7) = 818,000,000$

C  $(9.9 \times 10^7) - (5.8 \times 10^6) = 9,320,000$

D  $(2.9 \times 10^8) - (1.3 \times 10^7) = 16,000,000$

**5** Which of these systems of equations has no solution?

**A**  $3a - 5b = 12$   
 $4a - 9b = 14$

**B**  $3a - 5b = 14$   
 $4a - 9b = 14$

**C**  $4a - 9b = 12$   
 $4a - 9b = 12$

**D**  $4a - 9b = 12$   
 $4a - 9b = 14$

**6** When parallel lines are cut by a transversal, why are the measures of corresponding angles equal?

**A** because parallel lines always have identical slopes, so a transversal will always intersect parallel lines in the same way

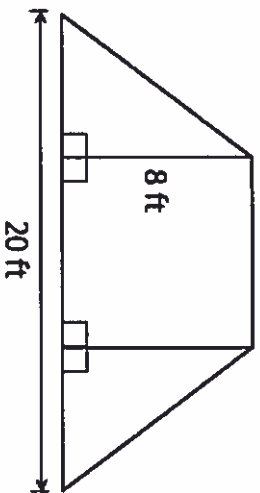
**B** because transversals always have identical slopes, so a transversal will always intersect parallel lines in the same way

**C** because parallel lines always have identical  $y$ -intercepts, so a transversal will always intersect parallel lines in the same way

**D** because transversals always have identical  $y$ -intercepts, so a transversal will always intersect parallel lines in the same way

7

Domenica is creating a banner to hang outside her business. Her design is shown below. It is composed of a square and two equal right triangles, one on either side of the square.



If Domenica makes this banner, what will be the total area of the finished product? Show your work.

A large empty rectangular box provided for the student to show their work in solving the problem.

## For Question 8:

### Session 2

#### TIPS FOR TAKING THE TEST

Here are some suggestions to help you do your best:

- Read each question carefully and think about the answer before making your choice or writing your response.
- You have been provided with mathematics tools (a ruler, a protractor, and a calculator) and a reference sheet to use during the test. It is up to you to decide when each tool and the reference sheet will be helpful. You should use mathematics tools and the reference sheet whenever you think they will help you to answer the question.
- Be sure to show your work when asked.

## Grade 8 Mathematics Reference Sheet

### CONVERSIONS

1 inch = 2.54 centimeters	1 kilometer = 0.62 mile	1 cup = 8 fluid ounces
1 meter = 39.37 inches	1 pound = 16 ounces	1 pint = 2 cups
1 mile = 5,280 feet	1 pound = 0.454 kilogram	1 quart = 2 pints
1 mile = 1,760 yards	1 kilogram = 2.2 pounds	1 gallon = 4 quarts
1 mile = 1.609 kilometers	1 ton = 2,000 pounds	1 gallon = 3.785 liters
		1 liter = 0.264 gallon
		1 liter = 1,000 cubic centimeters

### FORMULAS

Triangle	$A = \frac{1}{2}bh$
Parallelogram	$A = bh$
Circle	$A = \pi r^2$
Circle	$C = \pi d$ or $C = 2\pi r$
General Prisms	$V = Bh$
Cylinder	$V = \pi r^2h$
Sphere	$V = \frac{4}{3}\pi r^3$
Cone	$V = \frac{1}{3}\pi r^2h$
Pythagorean Theorem	$a^2 + b^2 = c^2$

**8**

A school district transported a total of 409 students and teachers to a zoo in buses and vans.

- Each bus transported a total of 55 students and teachers.
- Each van transported a total of 12 students and teachers.
- There were 5 more buses than vans.

**What is the total number of students and teachers who rode to the zoo in buses?**

**What is the total number of students and teachers who rode to the zoo in vans?**

**Show your work.**



**Answer**

**students and teachers rode in buses**

**students and teachers rode in vans**





FRIDAY - March 27, 2020

NAME: \_\_\_\_\_



1.  $3^2 \cdot 3 \cdot 3 \cdot 3 = 3^4$  Circle: True or False

2. Write 5,806 in scientific notation. \_\_\_\_\_

3.  $2^3 = \frac{1}{2}$  Circle: True or False

4.  $\sqrt{64} =$  \_\_\_\_\_

5.  $3[8 + (4 + 2)] =$  \_\_\_\_\_

6. What does  $a$  equal in this problem?  $8 = 2^a$  \_\_\_\_\_

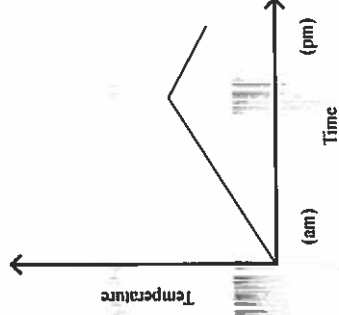
7.  $x \cdot x \cdot x =$  \_\_\_\_\_

8. If  $a = 6$  and  $b = 2$ , then what does  $a^b$  equal? \_\_\_\_\_

9.  $\frac{2^5}{2^3} =$  \_\_\_\_\_

10. According to the graph, which of these is true?

- a. The later in the day it is, the hotter it is.
- b. Temperature goes up and then down during the day.
- c. Temperature is ~~always~~ lowest in the evening.
- d. Temperature decreases when it rains.







## Network 8th MAP 2020 IW 24 D2

Directions: Read the question. Fill in the bubble next to the corresponding question number on your answer sheet.

<u>Sample Question</u>	<u>Sample Answer Sheet</u>
<b>Sample Item Not Available</b>	<ol style="list-style-type: none"><li>1. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>2. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>3. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>4. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>5. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li></ol>

1

The smallest cells in the human body have a diameter of about  $2 \times 10^{-6}$  meter. The largest cells in the human body have a diameter of about  $1 \times 10^{-4}$  meter. What statement best compares these two numbers?

- A  $1 \times 10^{-4}$  is 500 times  $2 \times 10^{-6}$ .
- B  $1 \times 10^{-4}$  is 50 times  $2 \times 10^{-6}$ .
- C  $2 \times 10^{-6}$  is 20 times  $1 \times 10^{-4}$ .
- D  $2 \times 10^{-6}$  is 200 times  $1 \times 10^{-4}$ .

2

A system of equations is shown below.

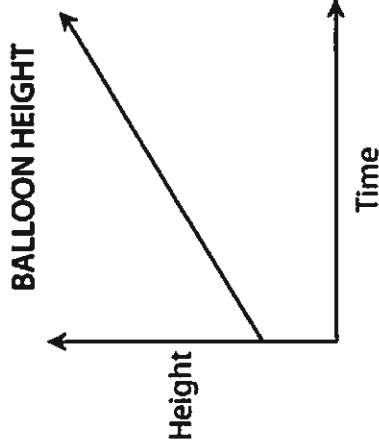
$$\begin{cases} 8x - 2y = -4 \\ 4x - y = -2 \end{cases}$$

What is the solution to this system of equations?

- A There is no solution to this system of equations.
- B There are an infinite number of solutions to this system of equations.
- C (0,-2)
- D (2,0)

**3**

The graph shows how the height of a balloon is changing over time.



Which quantity is given by the slope of the line on the graph?

- A** the final height of the balloon
- B** the time the balloon stays in the air
- C** the starting height of the balloon
- D** the rate at which the balloon is rising

**4**

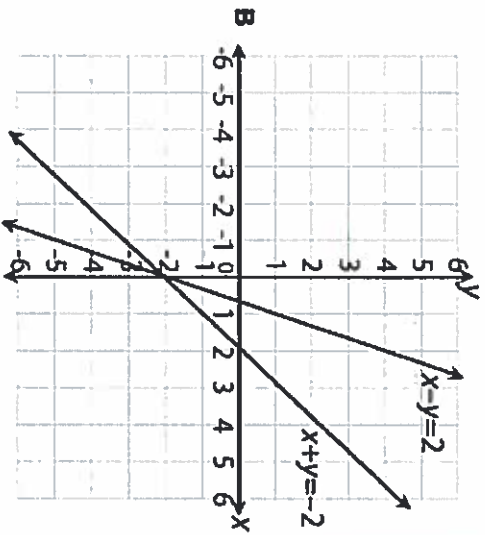
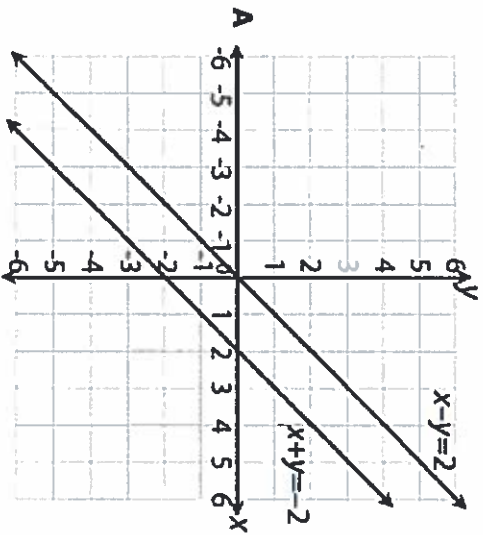
Horseshoe Falls is one of the three waterfalls that make up Niagara Falls near Buffalo, New York. It has an average flow of  $7 \times 10^3$  cubic meters per second. Which value best represents how much water goes over Horseshoe Falls every minute?

- A**  $4.9 \times 10^7$  cubic meters per minute
- B**  $1.2 \times 10^2$  cubic meters per minute
- C**  $4.2 \times 10^4$  cubic meters per minute
- D**  $4.2 \times 10^5$  cubic meters per minute

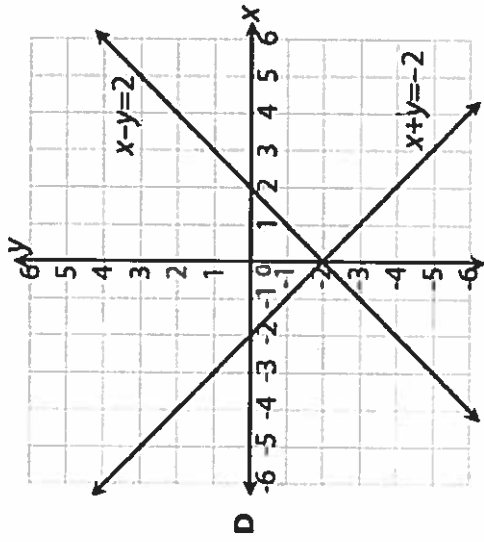
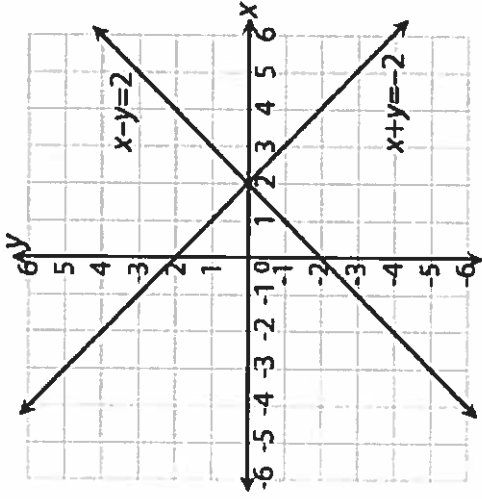
5 A system of equations is shown below.

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

Which graph represents this system of equations and its solution?

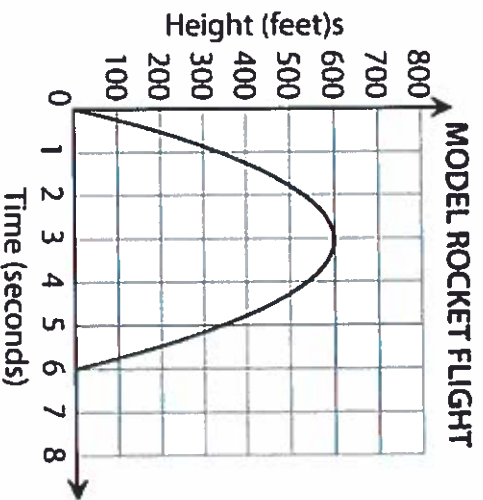


C



6

A science club launched a model rocket and collected data during the flight. The graph below represents a function of the rocket's height, based on the time after launch.



Which statement best describes the graph of the function?

- A** The graph is non-linear, and it decreases continuously for times less than 3 seconds and increases continuously for times greater than 3 seconds.
- B** The graph is non-linear, and it increases continuously for times less than 3 seconds and decreases continuously for times greater than 3 seconds.
- C** The graph is linear, and it decreases continuously for times less than 3 seconds and increases continuously for times greater than 3 seconds.
- D** The graph is linear, and it increases continuously for times less than 3 seconds and decreases continuously for times greater than 3 seconds.



**7**

Mrs. Wolfe has been recording her daughter's weight each year for the past 10 years. She made the following table.

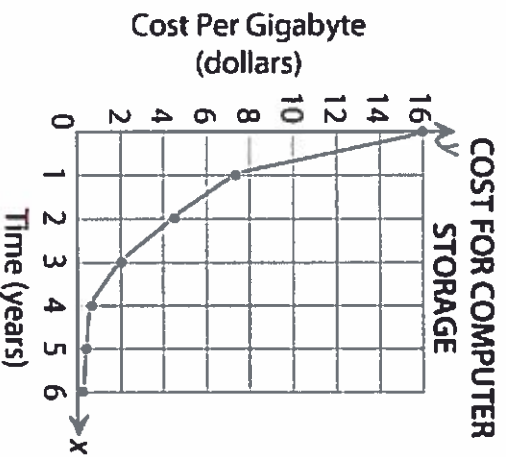
Age (years)	Weight (pounds)
1	21
2	28
3	31
4	35
5	40
6	46
7	51
8	57
9	64
10	71

When these values are plotted on a scatter plot, what type of correlation is there between the daughter's age and weight?

- A** zero correlation
- B** no correlation
- C** a negative correlation
- D** a positive correlation

8

A magazine reported that the cost per gigabyte of computer storage changed during a 6-year period as shown in the graph of a function.



Which statement best describes the graph of the function?

- A The function is non-linear and it increases continually as the value of  $x$  increases.
- B The function is linear and it decreases continually as the value of  $x$  increases.
- C The function is non-linear and it decreases continually as the value of  $x$  increases.
- D The function is linear and it increases continually as the value of  $x$  increases.

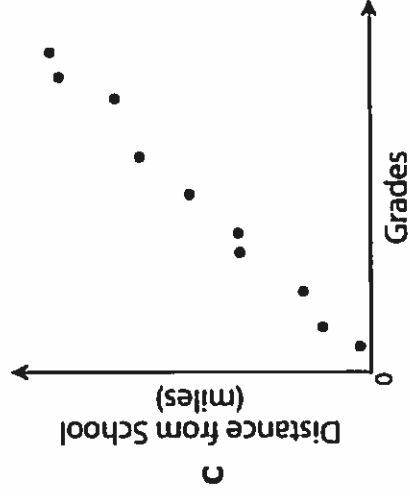
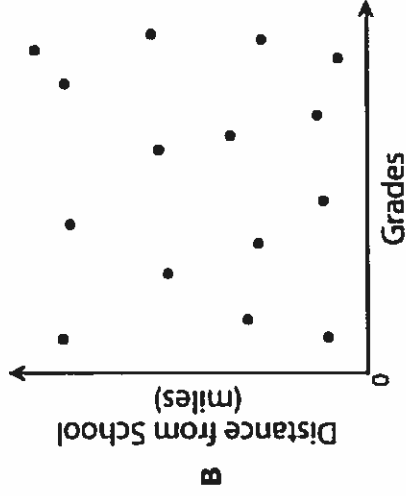
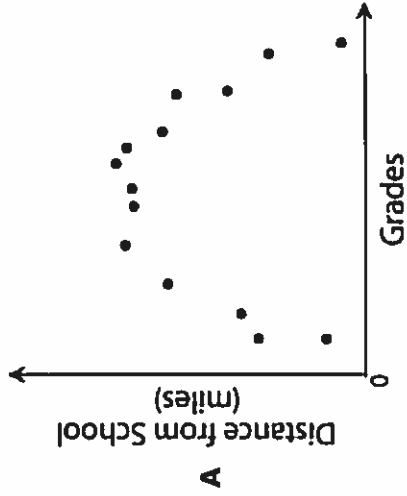
9

According to a recent estimate, there are approximately  $8 \times 10^7$  pet dogs in the United States and approximately  $3 \times 10^8$  people. Which statement best compares these populations?

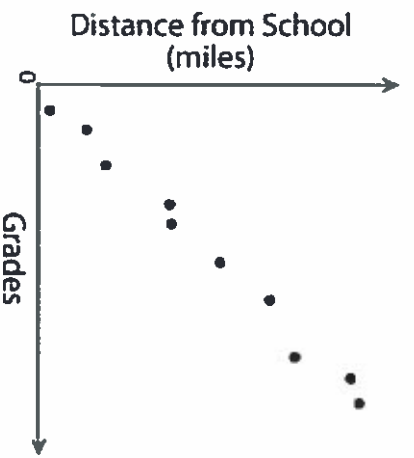
- A There are about 26.7 times as many pet dogs as people.
- B There are about 37.5 times as many people as pet dogs.
- C There are about 3.75 times as many people as pet dogs.
- D There are about 2.67 times as many pet dogs as people.

10

A teacher took a survey of his eighth grade class. After finishing his survey, he found that there was no correlation between the number of miles the students live from school and the students' grades. Which graph can represent the results of the survey?



**D**



NAME: \_\_\_\_\_



1.  $3.57 \times 10^7 =$
2.  $2^2 \cdot 2^3 =$
3. Which of these represents a whole number?  
Circle all that apply.  
a. 4      b. 3.2      c.  $\frac{4}{7}$       d.  $\frac{8}{4}$
4. Which of these represents an integer?  
Circle all that apply.  
a. -3      b. 4      c.  $2\frac{1}{2}$       d. 6.2
5. Which expression is correctly written in scientific notation?  
a.  $398 \times 10^1$       b.  $39.8 \times 10^2$   
c.  $3.98 \times 10^4$       d.  $398 \times 10^3$
6.  $\frac{8+4 \cdot 3}{5} =$
7.  $2^2 =$
8.  $\frac{3^3}{3^2} =$
9.  $\sqrt{25} =$
10.  $3(4^2 + 1) =$





## Network 8th MAP 2020 IW 24 CONT D1 Stamina

Directions: Read the question. Fill in the bubble next to the corresponding question number on your answer sheet.

<u>Sample Question</u>	<u>Sample Answer Sheet</u>
<b>Sample Item Not Available</b>	<ol style="list-style-type: none"><li>1. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>2. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>3. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>4. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>5. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li></ol>

1

Holly is deriving the equation of a line by using one triangle with vertices  $(0, 0)$ ,  $(1, 0)$ , and  $(1, 5)$  and another similar triangle with vertices  $(-3, -15)$ ,  $(-5, -15)$ , and  $(-5, -25)$ . Which of these proportions can she set up to help derive the equation?

- A  $\frac{x}{y} = \frac{10}{2}$
- B  $\frac{y}{x} = \frac{10}{2}$
- C  $\frac{x}{y} = \frac{40}{2}$
- D  $\frac{y}{x} = \frac{40}{2}$

2 What is the point of intersection of the lines  $y = 3x + 1$  and  $y = -2x - 8$ ?

- A  $(1, -8)$
- B  $(-7, -20)$
- C  $(2, -3)$
- D  $\left(-\frac{9}{5}, -\frac{22}{5}\right)$

3 Which of the following has the same value as:

$$10^{-6} \cdot 10^4$$

- A  $\frac{10^6}{10^4}$
- B  $\frac{1}{10^{24}}$
- C  $10^{-24}$
- D  $\frac{1}{10^2}$



4

The amount of pressure on a diver as she descends into the sea can be modeled by the equation  $y = \frac{1}{10}x + 1$ , where  $x$  is her depth in meters and  $y$  is the amount of pressure in atmospheres (atm). Which of these statements is correct according to the model?

- A For every 1 meter that the diver descends, the amount of pressure on her decreases by 10 atms.
- B For every 1 meter that the diver descends, the amount of pressure on her increases by 10 atms.
- C For every 10 meters that the diver descends, the amount of pressure on her decreases by 1 atm.
- D For every 10 meters that the diver descends, the amount of pressure on her increases by 1 atm.

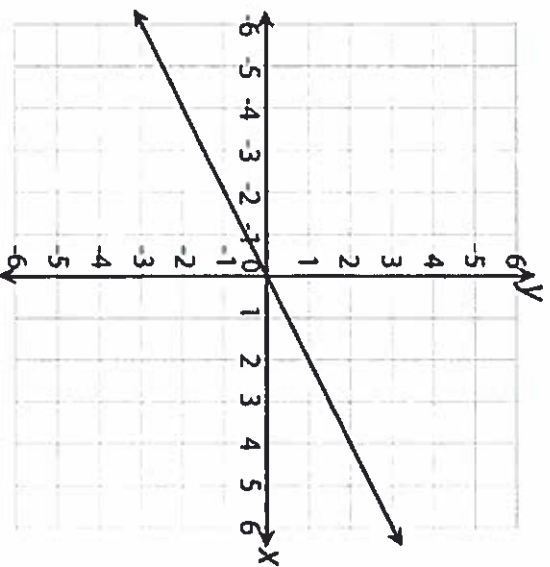
5

At what point does a line with a slope of  $\frac{3}{4}$  and a  $y$ -intercept of  $-5$  intersect a line with a slope of  $-\frac{1}{4}$  and a  $y$ -intercept of 3?

- A  $(-8, 1)$
- B  $(-1, 8)$
- C  $(1, 8)$
- D  $(8, 1)$

6

The graph of the function  $y = \frac{1}{2}x$  is shown below.

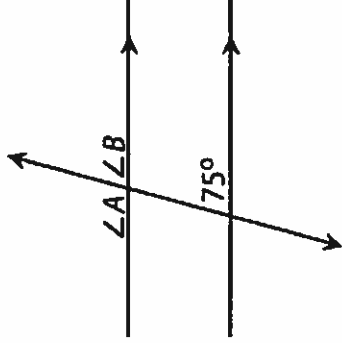


Which statement best describes the line shown in the graph?

- A** the set of all ordered pairs for which the input value is  $\frac{1}{2}$  of the output value
- B** the set of all ordered pairs for which the input and output values have a sum of  $\frac{1}{2}$
- C** the set of all ordered pairs for which the input and output values have a product of  $\frac{1}{2}$
- D** the set of all ordered pairs for which the output value is  $\frac{1}{2}$  of the input value

**7**

The two horizontal lines in this figure are parallel.



Which statement about  $\angle A$  is correct?

- A**  $\angle A$  measures  $15^\circ$  because it is complementary to  $75^\circ$ .
- B**  $\angle A$  measures  $75^\circ$  because it is congruent to  $\angle B$ , which measures  $75^\circ$ .
- C**  $\angle A$  measures  $105^\circ$  because it is supplementary to  $\angle B$ , which measures  $75^\circ$ .
- D**  $\angle A$  measures  $25^\circ$  because  $75^\circ + 25^\circ = 100^\circ$ .

**8**

Look at the system of equations below.

$$\begin{cases} y = 3x - 6 \\ x + 3y = 12 \end{cases}$$

What point represents the solution to the system?

- A**  $(4, 6)$
- B**  $(1, -3)$
- C**  $(-3, 5)$
- D**  $(3, 3)$

**9**

Four different lines are drawn on a coordinate plane. The lines all pass through the origin, and each line passes through one of the points listed below.

$(5, 5)$   $(10, 0)$   $(1, 4)$   $(9, 2)$

Which of the points is on the line with the GREATEST slope?

**A**  $(9, 2)$

**B**  $(1, 4)$

**C**  $(5, 5)$

**D**  $(10, 0)$

**10**

Suppose the first equation in a system of two linear equations is  $12x + 7y = 25$ . The second equation being which of these will cause the system to have no solution?

**A**  $12x + 7y = 20$

**B**  $12x + 7y = 25$

**C**  $12x + 9y = 20$

**D**  $12x + 9y = 25$

**11**

Select the linear function.

**A**  $y = \frac{x}{8} - 4$

**B**  $y = \frac{6}{x} - 2$

**C**  $y = \frac{x^2}{4} - 6$

**D**  $y = 4x^3$

**12**

$$5^{-4} =$$

**A**  $-20$

**B**  $\frac{1}{20}$

**C**  $-5 \cdot 5 \cdot 5 \cdot 5$

**D**  $\frac{1}{5 \cdot 5 \cdot 5 \cdot 5}$

**13**

A store sells six-packs of soda for \$3.00 a six pack. If this relationship is graphed with the number of cans of soda on the x-axis and the cost on the y-axis, what is the slope of the graph in dollars per can?

**A** 3

**B** 2

**C**  $\frac{3}{4}$

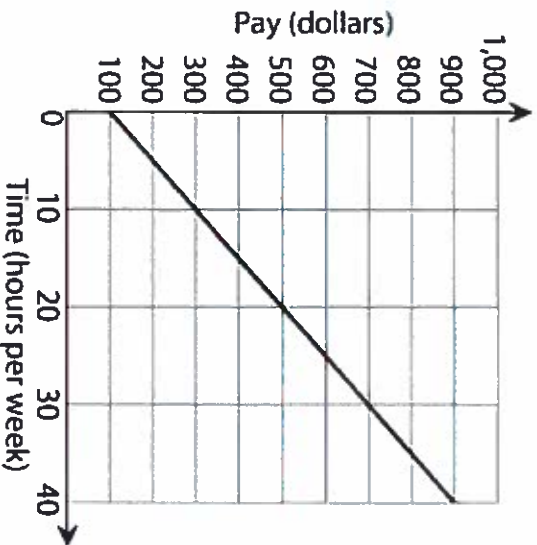
**D**  $\frac{1}{2}$

**14**

The function  $p$  represents Kevin's pay per week for  $h$  hours of work at his current job. Kevin makes \$17 per hour and receives \$100 to cover meal expenses. The equation for  $p$  is shown below.

$$p = 17h + 100$$

Kevin accepts a new job where his pay is represented by the graph shown.



How will Kevin's pay change from his current job to his new job?

- A** His pay per hour will increase by \$3.
- B** Money for meals will increase from \$17 to \$100.
- C** His pay per hour will increase by \$20.
- D** Money for meals will no longer be provided.

**15**

Lenny graphs the linear function  $f$  according to the values shown in the table below.

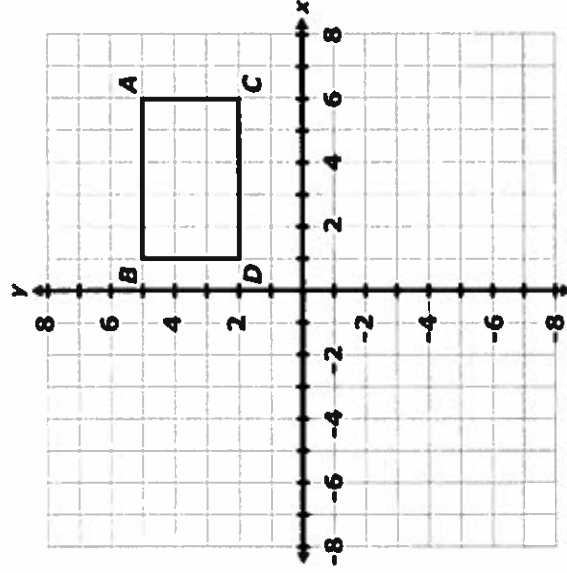
$x$	$y$
-5	-11
7	7

He then graphs another linear function  $g$  that passes through the points  $(-3, -8.5)$  and  $(3, 2)$ . Which statement is TRUE about the functions that Lenny graphs?

- A** The slope of  $f$  is greater than the slope of  $g$ .
- B** The slope of  $g$  is greater than the slope of  $f$ .
- C** The  $y$ -intercept of  $f$  is greater than the  $y$ -intercept of  $g$ .
- D** The  $x$ -intercept of  $g$  is greater than the  $x$ -intercept of  $f$ .

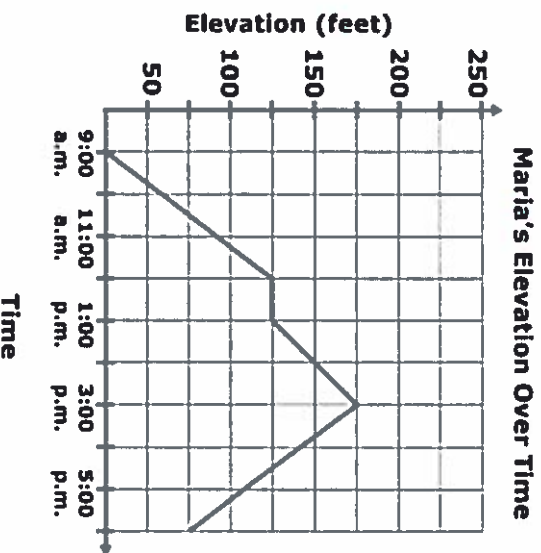
**16**

Where will point  $C$  be after a reflection over the line  $y = -1$ ?



- A**  $(-8, 2)$
- B**  $(2, -8)$
- C**  $(6, 2)$
- D**  $(6, -4)$

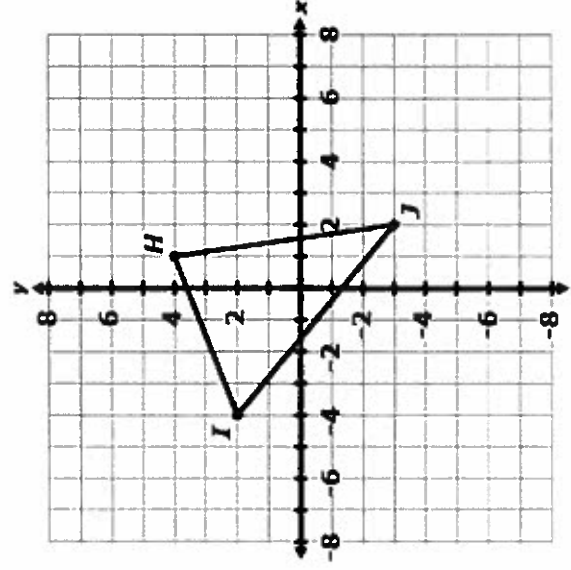
Maria and her parents are hiking in the mountains. During one hike, Maria monitored their changing elevation and displayed it in the graph below.



Which of the following **BEST** describes a functional relationship shown in the graph?

- A Maria's elevation remained constant for two hours.
- B Maria's elevation decreased between 1:00 and 3:00.
- C Maria's elevation increased between 9:00 and 12:00.
- D Maria spent more time decreasing her elevation than increasing her elevation.





If Triangle  $H I J$  is reflected over the  $x$ -axis, which of the following is the set of vertices of Triangle  $H' I' J'$ ?

- A**  $H'(-1, 4), I'(4, 2), J'(-2, -3)$
- B**  $H'(1, -4), I'(-4, -2), J'(2, 3)$
- C**  $H'(-9, 4), I'(-4, 2), J'(-10, -3)$
- D**  $H'(1, -10), I'(-4, -8), J'(2, -3)$

- 19** Find the choice that BEST describes the relationship between happiness and sleep in the graph:



- A** People who sleep more than 8 hours report being less happy than those who sleep 8 hours.
- B** People who sleep more hours per night tend to report being happier than people who sleep less hours per night.
- C** In order to be happy, people must sleep 8 to 9 hours per night.
- D** There is no relationship seen between happiness and sleep in this graph.

- 20** Which equation has no solution?

- A**  $2(x + 1) = 2$
- B**  $2(x + 1) = 2x + 2$
- C**  $2(x + 1) = 2x + 1$
- D**  $2(x + 1) = 1$

NAME: \_\_\_\_\_



1.  $2(5 + 8) =$  \_\_\_\_\_
2. Rewrite  $4 \cdot 4 \cdot 6 \cdot 4 \cdot 4 \cdot 6$  using exponents. \_\_\_\_\_
3.  $\frac{3(4 + 2)}{9} =$  \_\_\_\_\_
4. Brad thinks that  $2 \cdot 2 \cdot 2 \cdot 2$  is represented by  $4^2$ .  
What is wrong with this answer? \_\_\_\_\_
5.  $3.2 \times 10^3 =$  \_\_\_\_\_
6. If  $a = 2$  and  $b = 3$ , then what does  $ab^2$  equal? \_\_\_\_\_
7.  $0.043 \times 10^3 =$  \_\_\_\_\_
8. A mouse has 14 whiskers.  
How many whiskers do 3 mice have? \_\_\_\_\_
9.  $5 + (9)(6) - 4 =$  \_\_\_\_\_
10. Which of these operations should be completed last when solving an equation?  
a.  $\times$       b.  $+$       c.  $()$       d.  $\div$





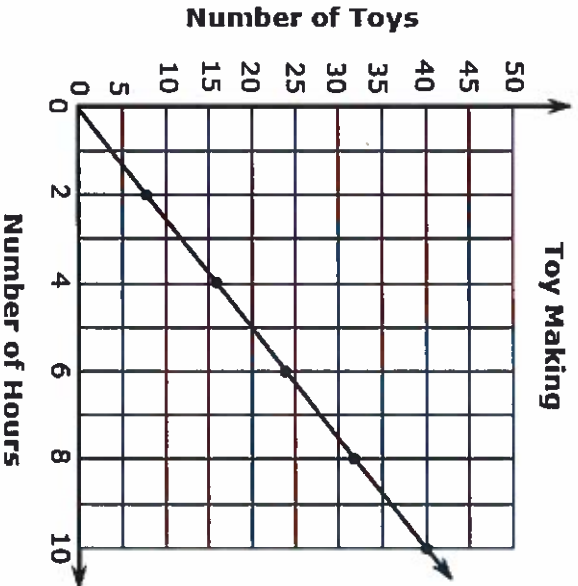
## Network 8th MAP 2020 IW 24 D1

Directions: Read the question. Fill in the bubble next to the corresponding question number on your answer sheet.

<u>Sample Question</u>	<u>Sample Answer Sheet</u>
<b>Sample Item Not Available</b>	<ol style="list-style-type: none"><li>1. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>2. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>3. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>4. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>5. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li></ol>

1

Nicolas makes toys at a toy shop. The graph represents the relationship between the number of toys ( $t$ ) that Nicolas makes and the number of hours ( $h$ ) Nicolas works at the shop.



Which of the following equations represents a toy-making rate, in toys per hour, that is HALF that of Nicolas's toy-making rate?

- A  $t = 2h$
- B  $t = 4h$
- C  $t = 8h$
- D  $t = 16h$

**2**

The table shows the cost for renting a canoe, based on the number of hours of rental. The pairs of values in the rows of the table form a linear function.

**CANOE RENTAL**

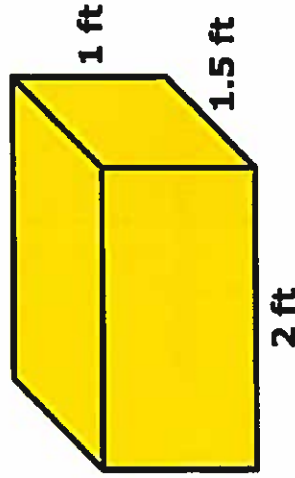
Hours	Cost in Dollars
1	7
2	9
3	11
4	13
5	15

What is the meaning of the rate of change for the function?

- A** The price per hour for the rental is \$2.
- B** The base charge is \$2.
- C** The price per hour for the rental is \$7.
- D** The base charge is \$5.

**3**

Find the volume of this rectangular prism in cubic inches.



- A** 3 cubic inches
- B** 36 cubic inches
- C** 5,184 cubic inches
- D** 46,656 cubic inches

- 4 The table shows the proportional relationship between the gallons ( $g$ ) of fuel and the price ( $p$ ) at Phil's Gas Station.

**PHIL'S GAS STATION**

Gallons ( $g$ )	Price ( $p$ )
5	\$13.75
10	\$27.50
15	\$41.25
20	\$55.00

The price of gas at Bob's Gas Station is \$0.25 less per gallon than Phil's Gas Station. Which equation shows the price of gas at Bob's Gas Station?

- A  $p = 2.5g$   
B  $p = 2.7g$   
C  $p = 2.75g$   
D  $p = 3g$

- 5 The table shown below gives temperatures in Buffalo, New York, on a January evening.

**TEMPERATURE IN BUFFALO, NY**

Number of Hours After 6:00 p.m.	Temperature ( $^{\circ}\text{C}$ )
2.5	-4.625
5.5	-8.375

If the temperature can be modeled using a linear model, which of these is TRUE?

- A The temperature increases by 1.25  $^{\circ}\text{C}$  every hour after 6:00 p.m.  
B The temperature at 6:00 p.m. was 1.25  $^{\circ}\text{C}$ .  
C The temperature decreases by 1.25  $^{\circ}\text{C}$  every hour after 6:00 p.m.  
D The temperature at 6:00 p.m. was -1.25  $^{\circ}\text{C}$ .



**6**

A globe in the shape of a sphere has a radius of  $\frac{3}{4}$  ft. What is the volume of the globe?

A  $\frac{9}{16}$  ft<sup>3</sup>

B  $\frac{27}{64}$  ft<sup>3</sup>

C  $\frac{9\pi}{16}$  ft<sup>3</sup>

D  $\frac{27\pi}{64}$  ft<sup>3</sup>

**7**

Four different lines are drawn on a coordinate plane. The lines all pass through the origin, and each line passes through one of the points listed below.

(4, 4) (8, 0) (1, 3) (6, 3)

Which of the points is on the line with the GREATEST slope?

A (4, 4)

B (1, 3)

C (8, 0)

D (6, 3)

**8**

The dimensions for two rectangular prisms are shown below.

- Prism A: 2 cm by 3 cm by 4 cm
- Prism B: 4 cm by 6 cm by 8 cm

The surface area of prism B is how many times the surface area of prism A?

- A** 3 times
- B** 8 times
- C** 2 times
- D** 4 times

**9**

Ursula has a cylinder and a cone that have the same height and radius. Which ratio compares the volume of the cone to the volume of the cylinder?

- A** 1 to 3
- B** 1 to 2
- C** 2 to 1
- D** 3 to 1

10

The equation  $p = 3.25b$  can be used to find the price,  $p$ , in dollars, of  $b$  pounds of blueberries at a particular supermarket. Each of the tables gives the prices of various pounds of blueberries at a different supermarket. Which of these tables represents blueberries that are *more* expensive than those represented by the equation?

Pounds of Blueberries	Price
1	\$2.75
2	\$5.50
3	\$8.25
4	\$11.00

A

Pounds of Blueberries	Price
1.5	\$3.75
3	\$7.50
4.5	\$11.25
6	\$15.00

B

Pounds of Blueberries	Price
3	\$11.25
6	\$22.50
9	\$33.75
12	\$45.00

C

Pounds of Blueberries	Price
3.5	\$10.50
7	\$21.00
10.5	\$31.50
14	\$42.00

D



Tuesday: March 24, 2020

NAME: \_\_\_\_\_



# MINUTE 2

1.  $(2)(3)(4) =$  \_\_\_\_\_
2. Write  $4 \cdot 4 \cdot 4 \cdot 4 \cdot 4$  in exponential form. \_\_\_\_\_
3.  $\frac{4+6}{5} =$  \_\_\_\_\_
4. Bobby thinks that  $5^2 = 10$ .  
What is wrong with this answer? \_\_\_\_\_
5.  $4 + 6 \cdot 2 = 4 + 12$       Circle: True    or    False
6. If  $a = 5$  and  $b = 6$ , then what does  $ab$  equal? \_\_\_\_\_
7. Miss White wants to buy 5 value meals at Mel's Diner.  
What is a reasonable total for her purchase?  
a. \$25      b. \$1,000      c. \$100      d. \$10
8. 12 snakes have how many eyes altogether? \_\_\_\_\_
9.  $5 + (9)(6) =$  \_\_\_\_\_
10. Which of these operations should be completed first when solving an equation?  
a.  $\times$       b.  $+$       c.  $()$       d.  $\div$





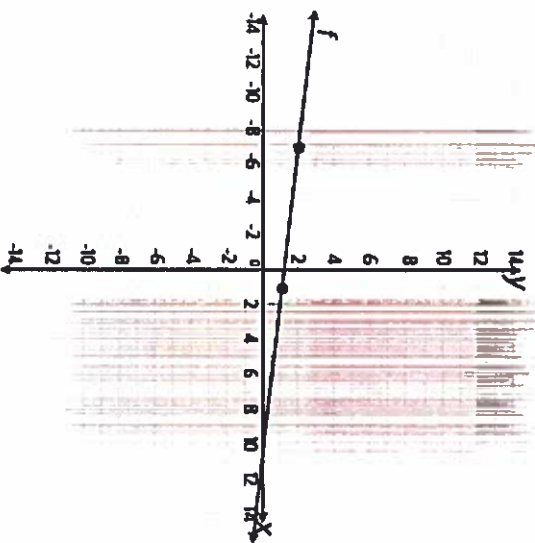
## Network 8th MAP 2020 IW 22 D3

Directions: Read the question. Fill in the bubble next to the corresponding question number on your answer sheet.

<u>Sample Question</u>	<u>Sample Answer Sheet</u>
<b>Sample Item Not Available</b>	<ol style="list-style-type: none"><li>1. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>2. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>3. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>4. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li><li>5. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D</li></ol>

**1**

Fabian plots the linear function  $f$  below.



Gina graphs function  $g$ , which is a straight line that passes through  $(0, 8)$  and  $(8, 7)$ .

Which of these correctly describes the slopes of  $f$  and  $g$ ?

- A**  $f$  has a slope of  $-8$  and  $g$  has a slope of  $-\frac{1}{8}$ .
- B** Both  $f$  and  $g$  have a slope of  $-8$ .
- C**  $f$  has a slope of  $-\frac{1}{8}$  and  $g$  has a slope of  $-8$ .
- D** Both  $f$  and  $g$  have a slope of  $-\frac{1}{8}$ .



**2**

Kylie compared the price per pound of two types of apples at her grocery store. She used the equation  $y = 0.85x$  to represent  $y$ , the total cost in dollars of  $x$  pounds of apple A. She entered into the table below the cost of some weights of apple B.

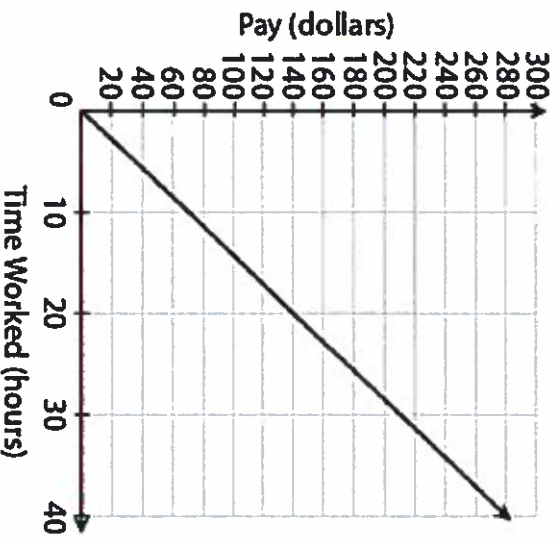
Weight (pounds)	Cost (dollars)
2	2.50
4	5.00
6	7.50

What is the difference in the price per pound between apple A and apple B?

- A** \$0.40
- B** \$0.85
- C** \$1.25
- D** \$2.10

3

Justin's pay is represented by this line graph.



How much is Justin paid for one hour of work?

- A \$6.50
- B \$7.00
- C \$7.50
- D \$8.00

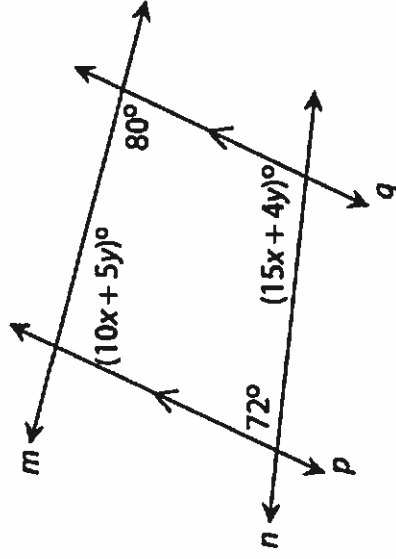
4

Which equation has infinitely many solutions?

- A  $2x = x + x$
- B  $2x = 2$
- C  $2x = x + x + 2$
- D  $2x = x$

5

In the diagram below, line  $p$  is parallel to line  $q$ .



Which of these represents the value of  $y$ ?

- A 3.2
- B 4
- C 8
- D 12

6

Which transformation does NOT preserve congruence?

- A translation
- B reflection
- C rotation
- D dilation

7

A table of values for the cost of a phone plan in terms of the time spent on the phone is shown below.

Time (minutes)	Cost (\$)
20	17.95
30	19.45
60	23.95

Determine the rate of change for the relationship shown in the table.

Explain what this rate of change means in terms of the phone plan.



8

Reflect the figure shown across the  $x$ -axis. Label each vertex in the image with its coordinates. Which aspects of the figure (sides, angles, perpendicular sides) stay the same under the transformation?

