

Name: _____

Grade 7 math packet

Week 1

Directions: Complete the pages of math problems assigned for the day. Write the date when you complete that day's work. Have your parent/guardian sign at the bottom of this page when all of your week 1 work is complete and has been checked.

Tuesday: _____

Wednesday: _____

Thursday: _____

Friday: _____

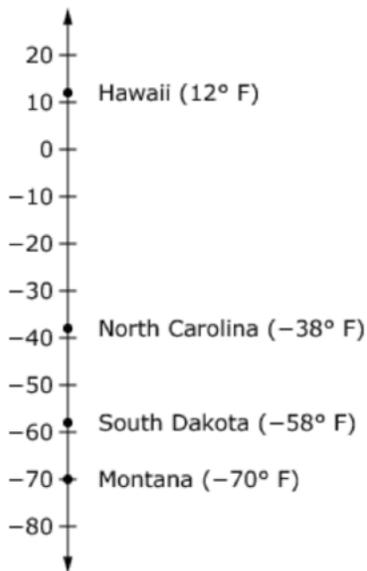
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Week 1, Day 1

1. Which other expression has the same value as $(-14) - (-8)$?

- A. $(-14) + 8$
- B. $14 - (-8)$
- C. $14 + (-8)$
- D. $(-14) + (-8)$

2. The number line shows record low temperatures for four states.



What is the difference, in degrees, between the record low temperatures in Hawaii and South Dakota?

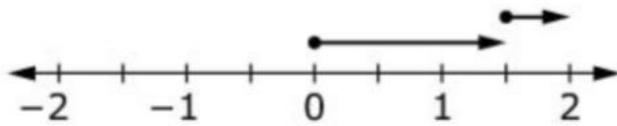
Answer: _____ degrees

3. What is the difference between $\frac{3}{4} - \frac{2}{5} + (-5)$

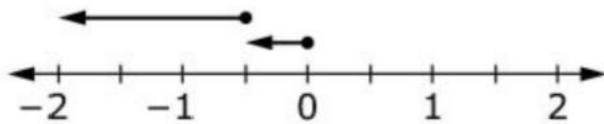
Answer: _____

4. Which number line represents the sum of $1\frac{1}{2} + (-\frac{1}{2})$

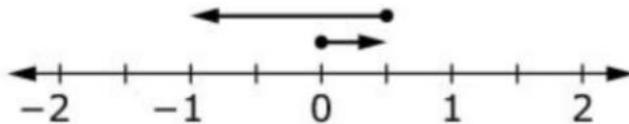
A.



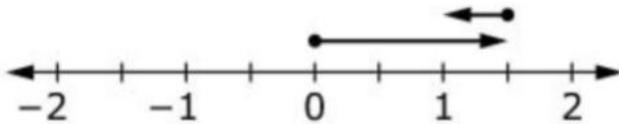
B.



C.



D.



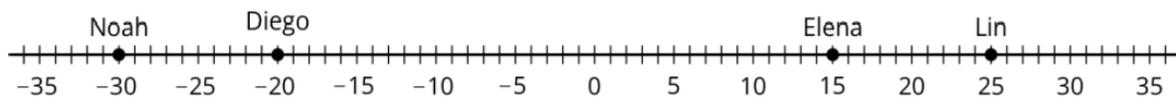
5. Which expression has the same value as $59.2 - 84.7$?

- A $84.7 - 59.2$
- B $-84.7 + (-59.2)$
- C $59.2 - (-84.7)$
- D $59.2 + (-84.7)$

6. Select all expressions that equal $-7 - (-12)$.

- A. $7 + (-12)$
- B. $-7 + (-12)$
- C. $-7 + 12$
- D. $7 + 12$

7. The number line shows the elevation in feet of four different people who are traveling through caves and hills. How much higher is Elena's elevation than Diego's elevation? Explain your reasoning.



Answer: _____ feet

KIPP:Nashville

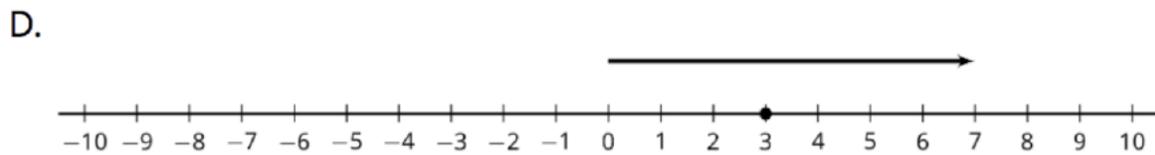
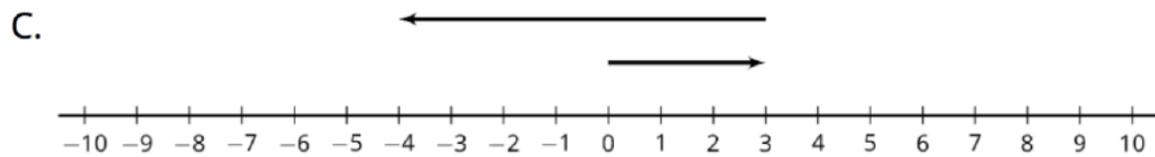
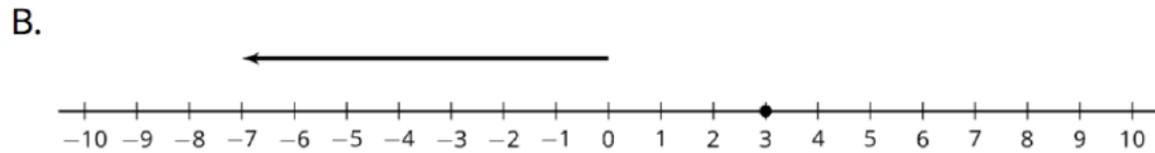
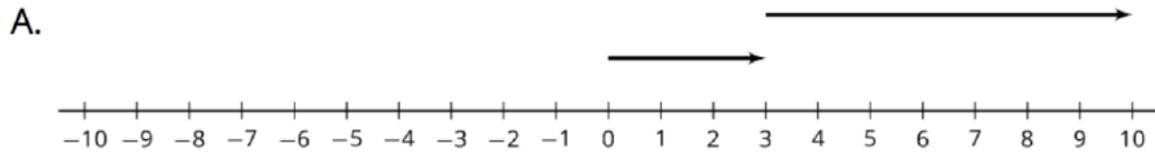
8. Jellybeans cost \$0.80 per pound. Howard buys $4\frac{1}{2}$ pounds of jellybeans for himself and 1 pound for his friend. There is a 5% sales tax. What is the total cost with tax of the jellybeans Howard buys?

Show your work.

Answer: \$ _____

Week 1, Day 2

1. Which of the following shows $3 + (-7)$?



2. A dress shirt that normally costs \$38.50 is on sale and being advertised as a 30% decrease. Which percent expression could be used to find the sale price of the shirt? Select all that apply.

- A. $30(38.50)$
- B. $0.30(38.50)$
- C. $30 - 0.3(38.50)$
- D. $38.50 - 0.3(38.50)$
- E. $0.7(30)$
- F. $0.7(38.50)$

KIPP Nashville

3. Devaunte goes to a Barnes and Noble to buy a book that is originally \$14.50. Devaunte was trying to save money, so he made sure to bring a coupon that gives him 20% off of his book. Which expression(s) could you use to find the new price?

Select all that apply.

A. $14.5 - 0.8(14.5)$

B. $14.5 - 0.2(14.5)$

C. $0.8(14.5)$

D. $.1.2(14.5)$

E. $14.5 + 0.2(14.5)$

4. Roberto eats dinner at Bertucci's and the cost of the food comes to \$45.60. Which expression can be used to find the total price of the meal, including a 20% tip? Select all that apply.

A. $45.60(0.2)$

B. $45.60 + 20$

C. $45.60 + 45.60(0.2)$

D. $45.60 + 45.60(0.8)$

E. $45.60 - 45.60(0.2)$

F. $45.60(1.2)$

5. A bookshelf costs \$300 normally. Today it is on sale and decreased by 20%. Which expression or expressions could you use to find the sale price? Circle all correct answers.

A. $300 + 0.2(300)$

B. $300 - 0.2(300)$

C. $0.2(300)$

D. $300(0.8)$

KIPP Nashville

6. Ms. Crosson makes 72 cookies for a bake sale. Ms. Johnson also makes cookies, but she makes 25% fewer cookies than Ms. Crosson.

Part A: Write two expressions that you could use to find out how many cookies Ms. Johnson makes for the bake sale.

Part B: How many cookies did Ms. Johnson make?

Part C: How many cookies are at the bake sale in total?

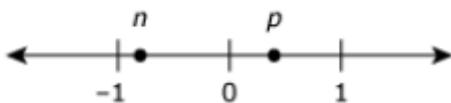
7. Luanne buys a piece of fabric that is $7\frac{1}{2}$ feet long. The cost of the fabric is \$0.50 per foot and there is 8% tax. What is the total cost of the fabric?
Show your work and explain your reasoning.

Week 1, Day 3

1. The absolute value of x is 40. Circle the answer choice that is a true statement.

- A. x must be equal to -40 .
- B. x must be equal to 40.
- C. x must be located 40 units from -40 on the number line.
- D. x must be located 40 units from 0 on the number line.

2. The numbers n and p are plotted on the number line below. Which statement is true?



- A. $n - p$ is greater than 0
 - B. $n - p$ is greater than n
 - C. $n - p$ is equal to $n + p$
 - D. $n - p$ is less than n
3. Kyle wrote this equation to represent a story problem.

$$(3)(-\$4) = -\$12$$

Which story problem matches Kyle's equation? Circle your answer choice.

- A. Each week for 3 weeks, Kyle earned \$4 for helping his brother mow the lawn. How much money did Kyle have at the end of 3 weeks?
- B. Each week for 3 weeks, Kyle borrowed \$4 from his brother. How much money did Kyle owe at the end of 3 weeks?
- C. Kyle earned \$3 for the first week and loaned \$4 to his brother the second week. How much money did Kyle have at the end of the second week?
- D. Each week for 4 weeks, Kyle borrowed \$3 from his brother. How much money did Kyle owe at the end of 4 weeks?

4. Which expressions are equivalent to $\frac{-5}{12}$? Select all that apply.

A. $\frac{5}{-12}$

B. $\frac{5}{12}$

C. $-\frac{5}{12}$

D. $\frac{-5}{-12}$

E. $-\left(\frac{5}{12}\right)$

F. $-\left(-\frac{5}{12}\right)$

5. At 7:00 a.m., a scuba diver dove from a platform $6\frac{1}{2}$ feet above the water's surface and reached a depth of $14\frac{1}{2}$ feet below the water's surface. What is the change in elevation in feet?

A. -21

B. -8

C. 8

D. 21

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6. The average high temperature for the year in Antarctica is -49°F . The highest temperature ever recorded in Antarctica is 113°F . higher than this. What is the highest temperature ever recorded in Antarctica?

- A. 162°F .
- B. 64°F .
- C. -162°F .
- D. -64°F .

7. Miguel and Bryan are on a cruise ship. Miguel's room is 52 feet above the surface of the water. Bryan's room is 79 feet below the surface of the water. What is the distance between Miguel's room and Bryan's room?

Show your work.

Answer: _____ feet

Week 1, Day 4

1.

. Simplify: $-4 - (-6\frac{1}{3})$

A. $-10\frac{1}{3}$

B. $2\frac{1}{3}$

C. $1\frac{2}{3}$

D. $-2\frac{2}{3}$

2. Altitude above sea level is given in positive values and below sea level is given in negative values. Which situation describes a scuba diver in New Orleans stopping at an altitude of 0 meters?

A. The diver starts at 20 meters then increases altitude by 20 meters.

B. The diver starts at 0 meters then decreases altitude by 20 meters.

C. The diver starts at -20 meters then increases altitude by 20 meters.

D. The diver starts at -20 meters then decreases altitude by 20 meters.

3.

What is the value of the expression below?

$$-\frac{3}{8} + -5 + 5 - \left(-\frac{3}{8}\right)$$

- A. $\frac{6}{16}$
- B. 0
- C. 10
- D. -10

4.

What is the value of $\frac{2}{5} + \left(\frac{-3}{5}\right) + 1\frac{1}{5}$?

- A. $1\frac{6}{5}$
- B. 1
- C. $1\frac{6}{15}$
- D. $-1\frac{1}{5}$

5. Complete each statement below to make it true.

a. $-4.8 + \underline{\hspace{2cm}}$ = a positive number

b. $\underline{\hspace{2cm}} - 1\frac{1}{2}$ = a negative number

c. $-2.15 - \underline{\hspace{2cm}}$ = a negative number

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6. What value of a will make the equation below a true statement? Explain how you arrived at your solution.

$$\left(-\frac{3}{4} + \frac{4}{3}\right) + a = 0$$

$a =$ _____

7. The initial balance of a savings account at the beginning of a month was \$65.21. The monthly bank statement lists the following deposits and withdrawals from the savings account over the course of the month: \$46.12, -\$29.80, \$10.00, -\$19.17, \$7.32.

Find the balance of the bank account at the end of the month.

Answer: \$ _____

Week 2

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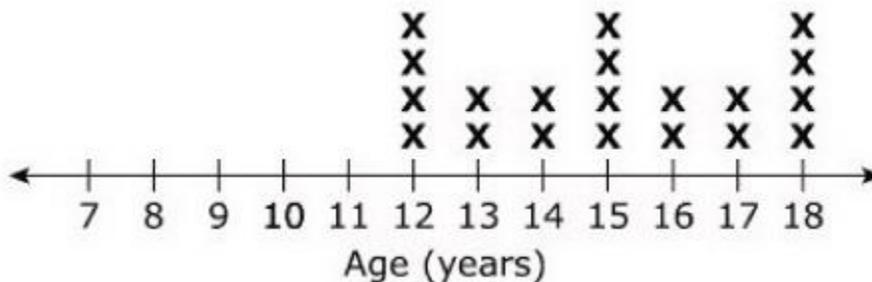
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Week 2, Day 1

1. Steve will conduct a survey to determine the number of times per year that people in the United States shop for clothing. Which sample should Steve use to get results that are the most representative of the total population?

- A. A random sample of 1,000 people from 10 local clothing stores.
- B. A random sample of 1,000 people from his city.
- C. A random sample of 1,000 people from his state.
- D. A random sample of 1,000 people from each of the 50 states.

2. The dot plot below shows the age of 20 campers at a summer camp.



A student wants to figure out the typical age of a camper. Which statement below best describes how the student should figure out the typical age of a camper?

- A. The student should determine the mean, because the data are symmetrical.
- B. The student should determine the median, because the data are skewed to the right.
- C. The student should determine the mean, because the data are skewed to the right.
- D. The student should determine the median, because the data are symmetrical.

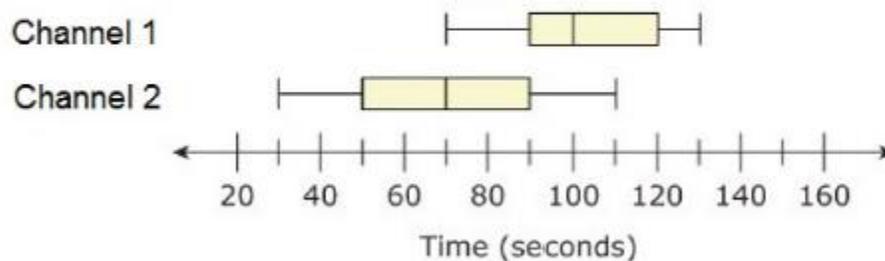
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3. A restaurant is planning to make changes to its menu. In order to decide which potential menu items are most popular with the city's population, the owners will conduct a survey. Which survey methods would produce a representative sample of the city's population?

- A. Survey all of the restaurant's customers on a random night.
- B. Survey 100 random customers as they leave a competitor's restaurant.
- C. Survey 100 of the restaurant's customers randomly chosen throughout the week.
- D. Survey 100 people who live at addresses in the city chose at random by a computer.

4. The box plot below shows the length of 100 randomly sampled commercial breaks for two different television stations.

Length of Commercial Breaks



- A. The commercial breaks on channel 1 are always longer than commercial breaks on channel 2.
- B. 50% of the commercial breaks on channel 1 are less than 100 seconds, and 50% of commercial breaks on channel 2 are less than 50 seconds.
- C. 25% of the commercials are longer than 90 seconds on channel 2, while 75% of commercials are longer than 90 seconds on channel 1.
- D. Channel 1 has a greater interquartile range than channel 2.

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5. A store sold 460 red backpacks, 220 green backpacks and 720 blue backpacks. What is the probability that the next person who walks into the store will buy a green or blue backpack? Round your answer to the nearest hundredth.

- A. 2.04
- B. 0.67
- C. 0.49
- D. 0.31

6. A hat contains the following cards: Ace of Spades, King of Hearts, Jack of Spades, Two of Diamonds, Three of Spades. If Joon picks one card, what is the probability it will be either a spade or a heart?

- A. 0.2
- B. 0.5
- C. 0.3
- D. 0.8

7. Gerard wants to determine if 5th graders are more likely than 6th graders to like electronic music. How should Gerard collect his sample?

- A. Gerard should ask any 100 5th graders at the school
- B. Gerard should go to an after-school dance party and ask 100 students there
- C. Gerard should ask any 50 5th graders and 50 6th graders at the school
- D. Gerard should ask any students at the school but not ask their grade

Week 2, Day 2

1. Which table shows a proportional relationship between the time in hours and the distance flown in miles?

A.

Time (in hours)	Distance Flown (in miles)
1	250
2	500
3	1,000
4	2,000

C.

Time (in hours)	Distance Flown (in miles)
1	600
2	600
3	600
4	600

B.

Time (in hours)	Distance Flown (in miles)
1	550
2	1,100
3	1,650
4	2,200

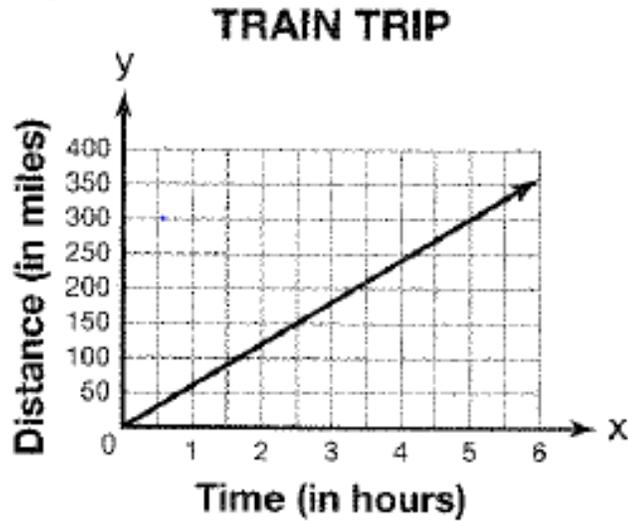
D.

Time (in hours)	Distance Flown (in miles)
1	400
2	650
3	900
4	1,150

2. A factory manager conducted tests on a random sample of 150 products. Of the products tested, 2 were found to have defects. Each defective part results in a \$0.10 reduction in the factory's profit. Based on this information, how much of a reduction in profit can the factory expect to have after producing 3000 products?

- A \$0.20
- B \$2.00
- C \$4.00
- D \$40.00

3. The line graphed below represents the distance traveled by a train over time.



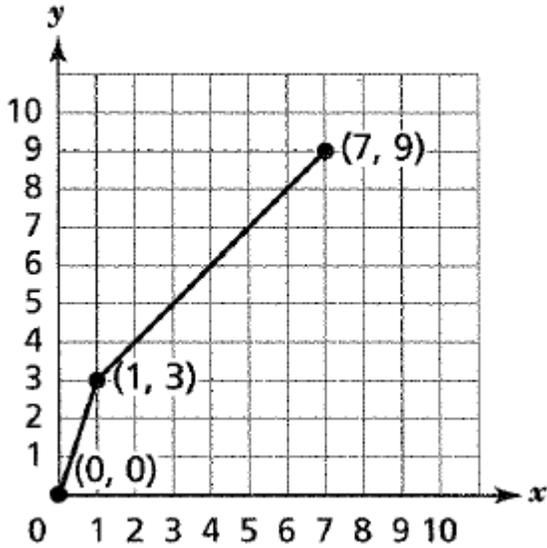
Based on this graph, which of the following statements is true?

- A The train traveled 300 miles in 1 hour.
 - B The train traveled 300 miles in 4 hours.
 - C The train traveled 150 miles in 3 hours.
 - D The train traveled 120 miles in 2 hours.
4. Janine has a recipe for homemade strawberry milk that contains only two ingredients, strawberry juice and milk. The recipe calls for 1 cup of strawberry juice for every $\frac{1}{2}$ cup of milk. Janine has $4\frac{1}{2}$ cups of strawberry juice. If she uses all of it, how many total cups of strawberry milk will she be able to make?

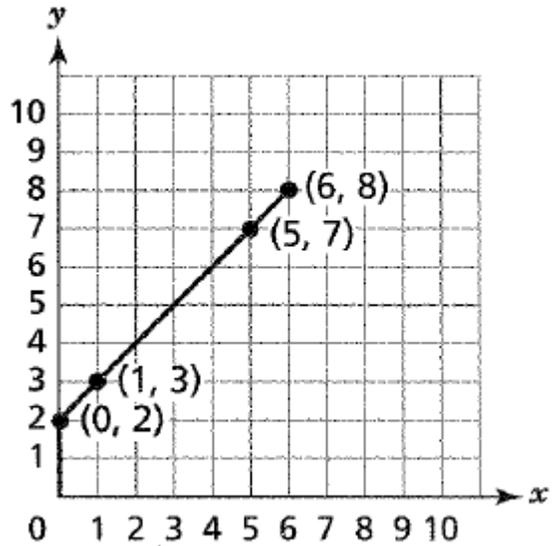
- A $2\frac{1}{4}$ cups
- B $2\frac{1}{2}$ cups
- C $6\frac{3}{4}$ cups
- D $13\frac{1}{2}$ cups

5. Which graph shows a proportional relationship between x and y ?

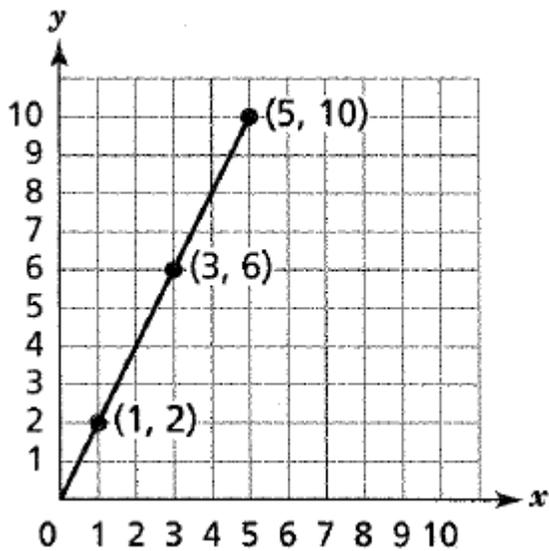
A



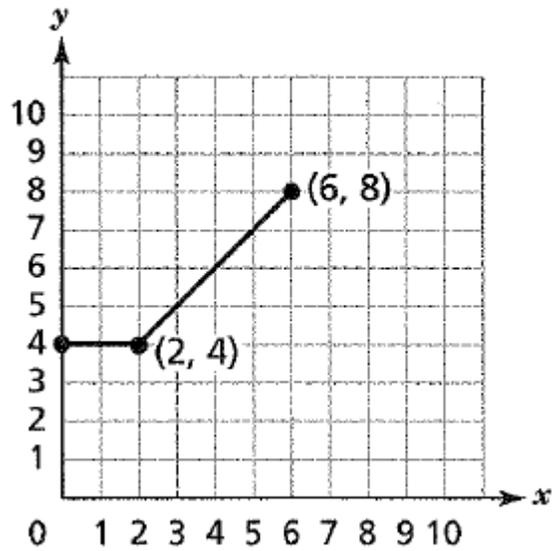
C



B



D



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6. A train traveled $\frac{1}{5}$ of the distance between two cities in $\frac{3}{4}$ hour. At this rate, how many hours will it take for the train to travel the entire distance between these two cities?

A $\frac{3}{20}$

B $\frac{4}{15}$

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

D $6\frac{2}{3}$

7. The manager at the Fuel Stop gas station says that gas prices are decreasing across the country and their station will still make a profit as long as there is not a greater than 10% decrease in gas prices. Gas prices decreased this week from \$4 per gallon to \$3.80 per gallon. Will Fuel Stop continue to make a profit? Why or why not?

Show your work and explain your reasoning.

Week 2, Day 3

1. The table below shows a proportional relationship. Which equation could represent this relationship?

x	y
4	48
5	60
8	96

A $y = 2x$

B $y = 3x$

C $y = 4x$

D $y = 12x$

2. The outside temperature was 4°C . For the next 6 hours the temperature changed at an average rate of -0.8°C per hour. Then, the temperature changed by $+0.3^{\circ}\text{C}$ for each of the next 2 hours. What was the final temperature?

A. 9.4°C

B. 8.2°C

C. -0.2°C

D. -0.8°C

3. Which situation could be represented using the expression $-4 + 4$?

A. Terrance has \$4 in his lunch account. He deposits \$4 more into his account when he gets to school in the morning.

B. Juanita recorded a temperature of -4°F at 8:00 a.m. An hour later, the temperature increased by 4°F .

C. Griffin places 4 counters, each representing -1 , in a group. He creates a total of 4 identical groups.

D. Melinda walks 4 blocks towards her home and stops to get a snack. She walks the remaining 4 blocks home.

KIPP•Nashville

4. Which expression has the same value as $-\frac{3}{2} - \left(2 - \frac{3}{8}\right) + \frac{3}{2}$?

A. $\left(\frac{3}{2} - \frac{3}{2}\right) - 2 + \frac{3}{8}$

B. $\left(\frac{3}{2} - \frac{3}{2}\right) + 2 + \frac{3}{8}$

C. $-\left(\frac{3}{2} + \frac{3}{2}\right) - \left(2 - \frac{3}{8}\right)$

D. $\left(-\frac{3}{2} + \frac{3}{2}\right) + \left(2 - \frac{3}{8}\right)$

5. Alyssa is making a carrot cake to take to a family dinner. Her recipe calls for $4\frac{1}{2}$ pounds of carrots and 1 carton of cream cheese icing. Alyssa purchased the carrots for \$3.00 per pound, and the carton of icing for \$4.20. How much did she spend on the carrots and icing?

A. \$32.40

B. \$11.70

C. \$21.90

D. \$17.70

6. Which expression represents the sum of $(2x - 5y)$ and $(x + y)$?

A. $3x - 4y$

B. $3x - 6y$

C. $x - 4y$

D. $x - 6y$

KIPP:Nashville

7. To solve the problem “56 is what percent of 70?”, Noah creates the equation $56p=70$ where p is the missing percent. Is Noah’s strategy correct? Explain your reasoning. If his strategy is correct, use it to solve. If it isn’t correct, use a correct strategy to solve.

8. Lenny bought a motorcycle. He paid 12.5% in tax. The tax added \$1,437.50 to the price of the motorcycle. What was the price of the motorcycle, not including the tax?

Answer: \$_____

Week 2, Day 4

1. What expression would replace the A in the equation below to make it true?

$$(7x - 5) - A = 4x - 3$$

- A. $(3x + 2)$
- B. $(3x - 2)$
- C. $(3x + 8)$
- D. $(3x - 8)$

2. Simplify the expression completely.

$$5(11z + 29 + 6z)$$

- A. $55z + 145 + 30z$
- B. $85z + 145$
- C. $230z$
- D. $85z + 29$

3. Which choice shows the fully factored form of $24x + 18y - 42$?

- A. $24x + (18y - 42)$
- B. $3(8x + 6y - 14)$
- C. $2(12x + 9y - 21)$
- D. $6(4x + 3y - 7)$

4. Mrs. Pitoya needs 138 apples for a harvest celebration at her school. She has 13 apples already, and she is going to buy the rest in crates containing 25 apples each. Which equation will help Mrs. Pitoya figure out the number of crates, n , that she needs to buy?

- A. $138 = 25n + 13$, $n = 5$ crates
- B. $138 = 25n - 13$, $n = 5$ crates
- C. $138 = 25n + 13$, $n = 6$ crates
- D. $138 = 13n + 25$, $n = 4$ crates

5. Alexis purchased a combination of daisies and tulips for her friend's birthday party. Both types of flowers cost \$4 per bundle, and she spent \$76. Alexis purchased 12 bundles of tulips. How many bundles of daisies did she buy?

- A. 7
- B. 16
- C. 19
- D. 28

6. Which choice represents the solution to the equation below?

$$-6 - z = 28$$

- A. $z = 34$
- B. $z = -34$
- C. $z = 22$
- D. $z = -22$

KIPP:Nashville

7. Brian read $8\frac{1}{4}$ pages of a book in $\frac{1}{6}$ hour. At this rate, what is the total number of pages of the book he will read in 1 hour? Show your work and explain your reasoning.

Answer: _____ pages

Week 2, Day 5

1. Which equation has the same solution as the equation below?

$$4(p - 9) = -36$$

A. $3p - 2 = -3p + 2$

B. $4 - p = -4$

C. $-2(p - 1) = 8$

D. $\frac{3}{4}p - 5 = -5$

2. A proportional relationship is represented by the equation $2x = 18y$. If $y = kx$, where k is the constant of proportionality, then what is the value of k ?

A. 9

B. 2

C. $\frac{1}{2}$

D. $\frac{1}{9}$

3. The community library is raising money by selling old books for \$2 each. Which equation can be used to find the amount of money raised if the number of books sold is unknown? Let x represent the number of books sold and y represent the number of dollars raised.

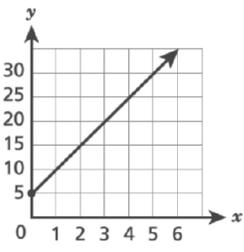
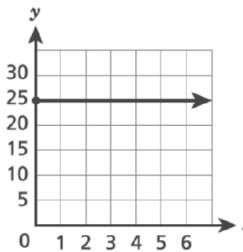
A. $y = \frac{x}{2}$

B. $y = 2x$

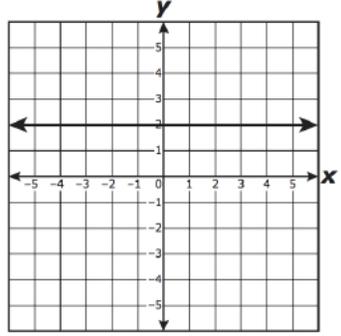
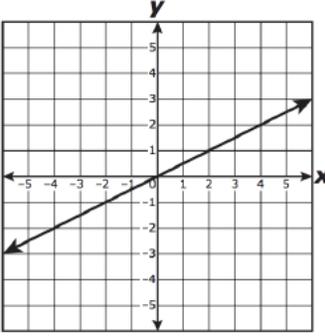
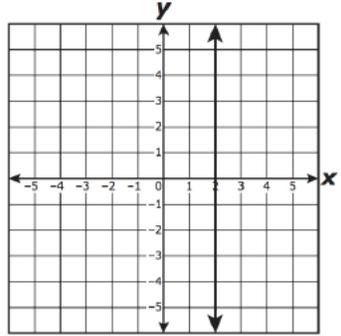
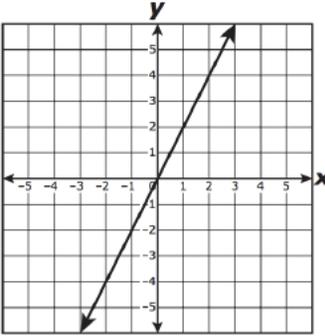
C. $y = 2 - x$

D. $y = 2 + x$

4. Which representation shows a proportional relationship between x and y ?

A.	B.	C.	D.																				
	<table border="1" style="margin: auto;"> <thead> <tr> <th>x</th> <th>y</th> </tr> </thead> <tbody> <tr><td>2</td><td>8</td></tr> <tr><td>4</td><td>16</td></tr> <tr><td>8</td><td>24</td></tr> <tr><td>12</td><td>32</td></tr> </tbody> </table>	x	y	2	8	4	16	8	24	12	32		<table border="1" style="margin: auto;"> <thead> <tr> <th>x</th> <th>y</th> </tr> </thead> <tbody> <tr><td>2</td><td>3</td></tr> <tr><td>4</td><td>6</td></tr> <tr><td>8</td><td>12</td></tr> <tr><td>12</td><td>18</td></tr> </tbody> </table>	x	y	2	3	4	6	8	12	12	18
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5. Which graph shows a proportional relationship between x and y with a constant of proportionality of 2?

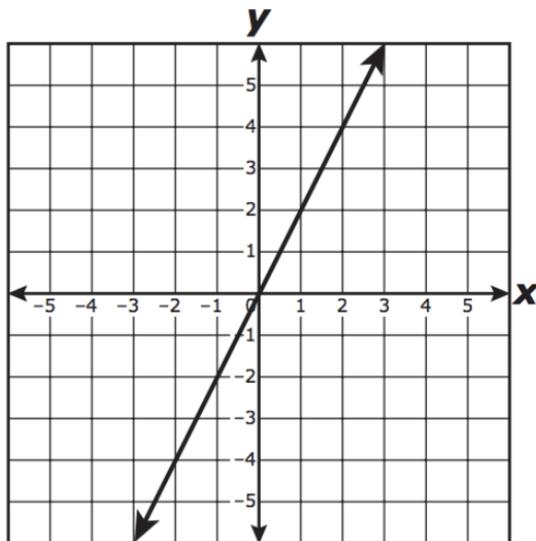
<p>A)</p> 	<p>C)</p> 
<p>B)</p> 	<p>D)</p> 

KIPP Nashville

6. Allison pours 6.8 ounces of water from a full bottle. She poured out 20% of the water in the bottle. About how much water was in the full bottle? Explain or show your reasoning.

Answer: _____

7. This graph shows a proportional relationship between x and y .



Find the constant of proportionality (k). Using the value for k , write an equation in the form of $y = kx$.

Answer: _____