

7th grade Math - AMI - Day 6

Read each question. Then fill in the correct answer on the answer sheet provided by your teacher or on a sheet of paper.

- Francesca typed 496 words in 8 minutes. Which of the following is a correct understanding of this rate?
 - At this rate, it takes 62 minutes for Francesca to type one word.
 - At this rate, Francesca can type 62 words in 8 minutes.
 - At this rate, Francesca can type 62 words in one minute.
 - At this rate, Francesca can type 8 words in one minute.
- The table shows the prices of three boxes of cereal. Which box of cereal has the highest unit price?

Cereal Box size (ounces)	Price(\$)
48	5.45
32	3.95
20	3.10

 - the 20-ounce box
 - the 32-ounce box
 - the 48-ounce box
 - All three boxes have the same unit price.

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GRIDDED RESPONSE A bakery sells 6 bagels for 2.99 and 4 muffins for \$3.29. What is the total cost in dollars of 4 dozen bagels and 16 muffins, not including tax?

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SHORT RESPONSE A teacher plans to buy 5 pencils for each student in her class. Pencils come in packages of 18 and cost \$1.99 per package. What other information is needed to find the cost of the pencils?

- During a 3-hour period, 2,292 people rode the roller coaster at an amusement park. Which proportion can be used to find x , the number of people who rode the coaster during a 12-hour period, if the rate is the same?
 - $\frac{3}{2,292} = \frac{x}{12}$
 - $\frac{3}{2,292} = \frac{12}{x}$
 - $\frac{3}{x} = \frac{12}{2,292}$
 - $\frac{x}{3} = \frac{12}{2,292}$

- A family went on a vacation and used 5.4 gallons of gasoline to travel 150 miles. How many total gallons of gasoline will they need to travel 200 more miles?
 - 12.6 gallons
 - 13.1 gallons
 - 14.3 gallons
 - 16.2 gallons

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SHORT RESPONSE You can drive your car 21.7 miles with one gallon of gasoline. At that rate, how many miles can you drive with 13.2 gallons of gasoline?

- The speed limit on a highway is 70 miles per hour. About how fast is this in miles per minute?
 - 4,200 mi/min
 - 11.7 mi/min
 - 1.17 mi/min
 - 0.117 mi/min

9. What is the constant rate of change shown in the table?

Time (h)	Distance (mi)
0	0
1	5
2	10
3	15

F. $\frac{5 \text{ mi}}{1 \text{ h}}$

H. $\frac{10 \text{ mi}}{1 \text{ h}}$

G. $\frac{1 \text{ mi}}{5 \text{ h}}$

I. $\frac{1 \text{ h}}{2 \text{ mi}}$

10. **SHORT RESPONSE** At 10 A.M., the temperature was 71°F. At 3 P.M., the temperature was 86°F. Find the value of the slope and explain what it means.

11. Which of the following relationships represent a direct variation?

A.

Hours, x	1	2	3	4
Wages (\$), y	20	30	40	50

B.

Hours, x	1	2	3	4
Wages (\$), y	5	12	19	26

C.

Hours, x	1	2	3	4
Wages (\$), y	6	12	18	24

D.

Hours, x	1	2	3	4
Wages (\$), y	15	20	25	30

12. To make a punch, Anna adds 8 ounces of apple juice for every 4 ounces of orange juice. If she uses 32 ounces of apple juice, which proportion can she use to find the number of ounces of orange juice x she should add to make the punch?

F. $\frac{8}{4} = \frac{x}{32}$

H. $\frac{4}{32} = \frac{x}{8}$

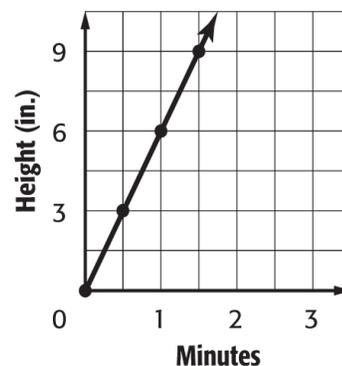
G. $\frac{8}{4} = \frac{32}{x}$

I. $\frac{8}{32} = \frac{x}{4}$

13. **SHORT RESPONSE** A dinner is served at an athletic booster fundraiser. The constant relationship between the number of people served at dinner n and the number of ounces of beef used b is shown in the table below. How many people were served if 760 ounces of beef were used?

n	5	20	150	?
b	20	80	600	760

14. **EXTENDED RESPONSE** The height of the water in a bathtub is shown in the graph.



Part A Find the rate of change in inches per minute.

Part B Explain what the points (0, 0) and (1, 6) represent.

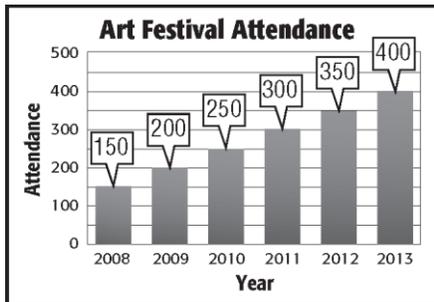
7th grade Math - AMI - Day 7

Read each question. Then fill in the correct answer on the answer sheet provided by your teacher or on a sheet of paper.

1. Sarah wants to buy new pillows for her room. Which store offers the best buy on pillows?

Store	Sale Price
A	3 pillows for \$40
B	4 pillows for \$50
C	2 pillows for \$19
D	1 pillow for \$11

- A. Store A
 B. Store B
 C. Store C
 D. Store D
2. The graph shows the attendance at a summer art festival from 2008 to 2013. If the trend in attendance continues, which of the following is a reasonable prediction for the attendance in 2017?



- F. Fewer than 200
 G. Between 500 and 600
 H. Between 700 and 800
 I. More than 800
3. At their annual car wash, the science club washes 30 cars in 45 minutes. At this rate, how many cars will they wash in 1 hour?
- A. 40
 B. 45
 C. 50
 D. 60

4.  **GRIDDED RESPONSE** A necklace regularly sells for \$18.00. The store advertises a 15% discount. What is the sale price of the necklace in dollars?



5.  **GRIDDED RESPONSE** At a middle school, 38% of all seventh graders have taken swimming lessons. There are 250 students in the seventh grade. How many of them have taken swimming lessons?
6. The cost of Ken's car wash was \$23.95. If he wants to give his detailer a 15% tip, about how much of a tip should he leave?
- F. \$2.40
 G. \$3.60
 H. \$4.60
 I. \$4.80
7. Cody has \$700 in a savings account that pays 4% simple interest. What is the amount of simple interest he will earn in 2 years?
- A. \$5.60
 B. \$56
 C. \$560
 D. \$756

8. At a pet store, 38% of the animals are dogs. If there are a total of 88 animals at the pet store, which proportion can be used to find x , the number of dogs at the pet store?

F. $\frac{x}{88} = \frac{100}{38}$

G. $\frac{38}{33} = \frac{100}{x}$

H. $\frac{x}{88} = \frac{38}{100}$

I. $\frac{100}{88} = \frac{x}{38}$

9.  **GRIDDED RESPONSE** A wrestler competes in 25 matches. Of those matches, he wins 17. What percent of the matches did the wrestler win?

10.  **SHORT RESPONSE** The average cost per month of a 2-bedroom apartment in Grayson was \$625 last year. This year, the average cost is \$650. What is the percent of increase from last year to this year?

11. Mr. Cooper asked his students whether they prefer to go to the aquarium or the planetarium for a field trip. The table shows the results.

Response	Percent
Aquarium	50
Planetarium	25

Suppose the rest of the class had no preference. What is the ratio of students who have no preference to the students who prefer to go to the aquarium?

A. 1:5

C. 1:3

B. 1:4

D. 1:2

12. In Nadia's DVD collection, she has 8 action DVDs, 12 comedy DVDs, 7 romance DVDs, and 3 science fiction DVDs. What percent of Nadia's DVD collection is comedies?

F. 25%

G. 30%

H. 35%

I. 40%

13. A salesman needed to sell a four-wheeler. He priced it at \$3,500 the first day it was on the market. The second day he reduced the price by 10%. What was the price of the four-wheeler after this reduction?

A. \$3,850

B. \$3,465

C. \$3,150

D. \$3,000

14.  **EXTENDED RESPONSE** Cable Company A increases their rates from \$98 a month to \$101.92 a month.

Part A What is the percent of increase?

Part B Cable Company B offers their cable for \$110 dollars a month but gives a 10% discount for new customers. Describe two ways to find the cost for new customers.

Part C If you currently use Cable Company A, would it make sense to change to Cable Company B? Explain.

7th grade Math - AMI – Day 8

Read each question. Then fill in the correct answer on the answer document provided by your teacher or on a sheet of paper.

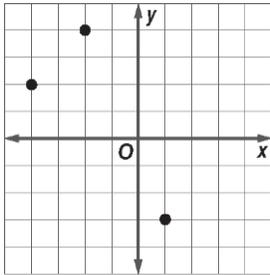
1. The table shows the daily low temperatures for Cleveland, Ohio, over five days.

Day	Temperature
1	15°F
2	-2°F
3	8°F
4	-6°F
5	5°F

Which expression can be used to find the average daily low temperature during the five days?

- A. $(15 + 2 + 8 + 6 + 5) + 5$
- B. $15 + 2 + 8 + 6 + 5 + 5$
- C. $[15 + (-2) + 8 + (-6) + 5] + 5$
- D. $15 + (-2) + 8 + (-6) + 5 + 5$

2. Three vertices of a parallelogram are given as coordinates $(-4, 2)$, $(-2, 4)$, and $(1, -3)$ in the graph. Which coordinates best represent the location of the fourth vertex of the parallelogram?

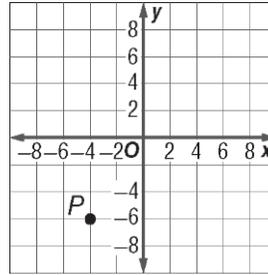


- F. $(-3, 1)$
- G. $(3, -1)$
- H. $(1, -3)$
- I. $(-1, 3)$

3. **GRIDDED RESPONSE** The lowest point in Japan is Hachiro-gata (elevation -4 m), and the highest point is Mount Fuji (elevation $3,776$ m). What is the difference in elevation, in meters, between Mount Fuji and Hachiro-gata?

4. **GRIDDED RESPONSE** A submarine is cruising 8 meters below the surface. The captain orders a dive of another 17 meters. What is the new cruising depth of the submarine in meters?

5. In what quadrant is point P located?



- A. Quadrant I
- B. Quadrant II
- C. Quadrant III
- D. Quadrant IV

6. What integer added to -9 gives a sum of 3?

- F. 12
- G. 6
- H. 3
- I. -12

7. By the end of the third quarter of a football game, Ricky had gained 112 yards and had lost 12 yards. If Ricky lost an additional 8 yards and gained 22 yards in the fourth quarter, which equation could be used to represent his total yardage for the game?

- A. $112 + 12 + 8 + 22 = 154$
- B. $112 + (-12) + (-8) + 22 = 114$
- C. $112 + 12 + (-8) + (-22) = 94$
- D. $(-112) + (-12) + 8 + 22 = -94$

8. GRIDDED RESPONSE Bobby is diving 50 feet below sea level at the beach. His sister is at the swimming pool deck, which is 15 feet above sea level. What is the difference, in feet, between the pool deck and Bobby's position?

9. SHORT RESPONSE Larry borrowed \$12,000 from his grandfather to buy a car. He bought a used car, so he returned \$4,411 to his grandfather. Write and solve an equation using integers that shows the total amount that Larry owes his grandfather.

10. Pablo and three of his friends are playing paintball. The table shows their scores at the end of one round. By how many points is Winston beating Pablo?

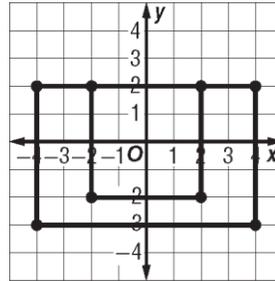
Player	Score
Pablo	-189
Winston	-124
Nevin	130
Marsella	48

- F. 65 H. 178
 G. 135 I. 313

11. Each of the first 4 pit stops a race car driver makes loses ten seconds off the leader. The pit crew makes adjustments, and at each of the next two pit stops he gains 7 seconds on the leader. How much time is the driver off the leader?

- A. 40 seconds
 B. 14 seconds
 C. -26 seconds
 D. -54 seconds

12. SHORT RESPONSE A rectangle and a square are graphed on a coordinate plane. Name an ordered pair that is inside the rectangle but outside the square.



13. EXTENDED RESPONSE The use of computers to download music has decreased the sales of music CDs. Use the following table to answer the questions.

Year	Estimated Number of New Music CD Releases
2000	36,000
2001	32,000
2002	34,000
2003	8,000
2004	14,000
2005	10,000
2006	12,000

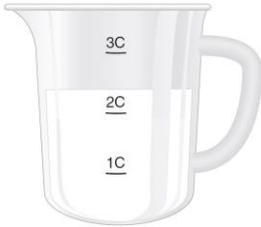
Part A During which year was there the greatest decrease in CD releases from the previous year? What was the decrease?

Part B Write and evaluate an expression that shows the change in CD releases from 2004 to 2005.

7th grade Math - AMI – Day 9

Read each question. Then fill in the correct answer on the answer sheet provided by your teacher or on a sheet of paper.

1. **THINK SOLVE EXPLAIN** **SHORT RESPONSE** Mrs. Brown needs to make two different desserts for a party. The first recipe requires $2\frac{1}{4}$ cups of flour and the second recipe requires $\frac{3}{4}$ cup less than the first. Write an equation that can be used to find the number of cups of flour needed for the second recipe.



2. The fraction $\frac{5}{6}$ is found between which pair of fractions on a number line?
- A. $\frac{1}{4}$ and $\frac{5}{8}$
 B. $\frac{1}{3}$ and $\frac{4}{9}$
 C. $\frac{11}{12}$ and $\frac{31}{36}$
 D. $\frac{7}{12}$ and $\frac{17}{18}$
3. At 7 A.M., the temperature was 15°F below zero. By 2 P.M. the temperature rose 32°F and by 5 P.M. it dropped 10°F . What was the temperature at 5 P.M.?
- F. 10°F
 G. 9°F
 H. 7°F
 I. 11°F
4. **GRIDDED RESPONSE** A diver is swimming 11 meters below the surface. The diver sees a shark 19 meters below him. How many meters below the surface is the shark?

5. **GRIDDED RESPONSE** Maria had \$240 in her savings account. The table shows the change in her account for four consecutive weeks.

Week	Change
1	Deposit of \$25
2	Withdrawal of \$45
3	Withdrawal of \$10
4	Deposit of \$60

How much money, in dollars, did Maria have in her account at the end of the four weeks?

6. The table shows the distance Kelly swam over a four-day period. What was the total distance, in miles, that Kelly swam?

Kelly's Swimming	
Day	Distance (mi)
Monday	1.5
Tuesday	$2\frac{3}{4}$
Wednesday	2.3
Thursday	$3\frac{1}{2}$

- A. 10.5 miles
 B. $10\frac{1}{4}$ Miles
 C. $10\frac{1}{20}$ Miles
 D. 9 miles
7. Which of the following gives the correct meaning of the expression $\frac{5}{8} \div \frac{1}{3}$?
- F. $\frac{5}{8} \div \frac{1}{3} = \frac{5}{8} \times \frac{1}{3}$
 G. $\frac{5}{8} \div \frac{1}{3} = \frac{5}{8} \times \frac{1}{3}$
 H. $\frac{5}{8} \div \frac{1}{3} = \frac{5}{8} \times \frac{1}{3}$
 I. $\frac{5}{8} \div \frac{1}{3} = \frac{5}{8} \times \frac{1}{3}$

8. The table shows the lowest temperature readings to the nearest degree recorded for four countries.

City	Temperature (°F)
Finland	-61°
France	-42°
India	-27°
United States	-80°

Which of the countries has the lowest recorded temperature?

- A. Finland
 - B. India
 - C. France
 - D. United States
9.  **GRIDDED RESPONSE** Nate had 25 action figures. He gave away 10 to his brother. He then got 3 new action figures as a gift. How many action figures does Nate have now?
10. Which expression represents the least value?
- F. $678 \div \frac{1}{3}$
 - G. $678 + \frac{1}{3}$
 - H. $678 \times \frac{1}{3}$
 - I. $678 - \frac{1}{3}$
11.  **GRIDDED RESPONSE** Jacob had \$25 for back-to-school shopping. He bought a shirt for \$15 and then returned a shirt he bought a week ago and got \$20 in return. How much money in dollars does Jacob have now?

12.  **GRIDDED RESPONSE** Evan runs $2\frac{3}{8}$ miles each week. He runs $\frac{3}{4}$ mile on Mondays and $\frac{3}{4}$ mile on Tuesdays. How far does he run, in miles, on Thursday if it is the only other day he runs?

13.  **SHORT RESPONSE** A recipe for a batch of cookies calls for $2\frac{1}{3}$ cups of flour for 24 cookies. Manuel wants to make 72 cookies. How many cups of flour will he need?

14.  **EXTENDED RESPONSE** A box of laundry detergent contains 35 cups. It takes $1\frac{1}{4}$ cups per load of laundry.



Part A Write an equation to represent how many loads ℓ you can wash with one box.

Part B How many loads can you wash with one box?

Part C How many loads can you wash with 3 boxes?

7th grade Math - AMI – Day 10

Read each question. Then fill in the correct answer on the answer document provided by your teacher or on a sheet of paper.

1. What is $(3x - 2) - (4x + 1)$ in simplest form?

- A. $x - 3$
- B. $-x - 3$
- C. $-x + 1$
- D. $x + 1$

2. Roberto is training for the cross country team. The table shows the number of minutes he ran the first five days.

Day	Number of Minutes
Day 1	30
Day 2	30
Day 3	40
Day 4	40
Day 5	50

If the pattern continues, which of the following shows the number of minutes he will run the next three days?

- F. 50, 50, 60
- G. 50, 60, 60
- H. 60, 60, 70
- I. 60, 70, 80

3. **GRIDDED RESPONSE** What is the value of the expression below if $x = 6$ and $y = 4$?

$$(x + y) + 5$$

4. Which of the following describes the relationship between the value of a term and n , its position in the sequence?

Position	1	2	3	4	5	n
Value of Term	3	6	9	12	15	■

- A. Add 2 to n .
- B. Divide n by 3.
- C. Multiply n by 3.
- D. Subtract n from 2.

5. **GRIDDED RESPONSE** Parker baked 80 cookies for a bake sale. At the sale, 70% of his cookies sold. How many of Parker's cookies were sold?

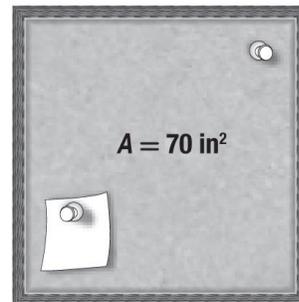
6. Which fraction is between $\frac{1}{2}$ and $\frac{3}{4}$?

- F. $\frac{1}{4}$
- G. $\frac{1}{3}$
- H. $\frac{3}{5}$
- I. $\frac{7}{8}$

7. What is the first step in evaluating the expression $3 \times (5 + 4) - 27 \div 9$?

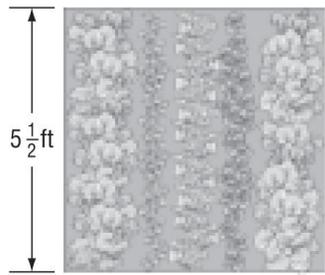
- A. multiplying 3 and 5
- B. adding 5 and 4
- C. subtracting 27
- D. dividing 27 and 9

8. **GRIDDED RESPONSE** A square-shaped bulletin board is shown.



If a teacher covers 35% of the board with papers, how many square feet will not be covered?

9. What is the perimeter of the square garden?



- F. 5 feet
- G. 20 feet
- H. 22 feet
- I. 30.25 feet

10. Sachi collects stamps. Each year, the number of stamps in her collection is ten times n , the number's position in the sequence. Which sequence represents Sachi's number of stamps?

- A. 1, 11, 21, 31
- B. 1, 10, 100, 1,000
- C. 10, 11, 12, 13
- D. 10, 20, 30, 40

11. What is the GCF of $45x^2y$ and $9x^3$?

- F. 9
- G. $9x$
- H. $9x^2$
- I. $9x^3$

12. **THINK SOLVE EXPLAIN** **SHORT RESPONSE** Lemisha drove an average of 50 miles per hour on Sunday, 55 miles per hour on Monday, and 53 miles per hour on Tuesday. Let s represent the number of hours she drove on Sunday, m represent the number of hours she drove on Monday, and t represent the number of hours she drove on Tuesday. Write an expression that represents the total distance Lemisha drove.

13. Which of the following expressions can be written as $5(3 + x)$?

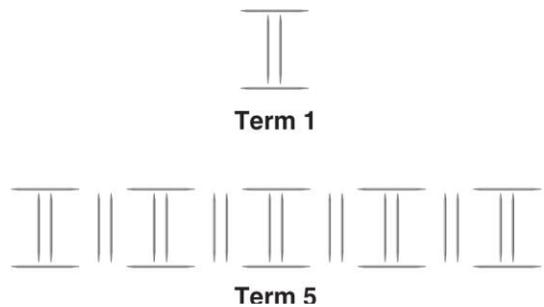
- A. $x \cdot 5 + x \cdot 3$
- B. $5 \cdot 3 + 5 \cdot x$
- C. $5 \cdot 3 + x$
- D. $3 + 5 \cdot x$

14. **SHORT RESPONSE** Use the Distributive Property to rewrite $4(12) + 4(8)$. Then evaluate the expression.

15. Which statement below is an example of the Associative Property of Addition?

- F. $7 + (3 + 5) = 7 + (5 + 3)$
- G. $9 + (11 + 6) = (9 + 11) + 6$
- H. $3(6 + 5) = 3 \cdot 6 + 3 \cdot 5$
- I. $12(8 + 4) = 12(8) + 12(4)$

16. **THINK SOLVE EXPLAIN** **EXTENDED RESPONSE** The first and fifth terms of a sequence are shown.



- Part A** What might the third term look like?
- Part B** Describe the relationship between the term number and the sequence.
- Part C** Write a rule that connects the term number and the number of toothpicks in the sequence.