

**Week 17: 12/7-12/11      Math I**

**Due: 12/14**

**Objectives:**

1. To review rough drafts of City Project.
2. To work on final draft of City Project.
3. To review for midterm test.
- 4.
- 5.

**Monday:**

**In Class:**

Check rough drafts and begin to work on final drafts.

**Homework:**

Work on final draft of City Project due December 17.

**Tuesday:**

**In Class:**

Review for midterm (Chapters 6 and 7)

**Homework:**

Review for the midterm (Chapters 6 and 7)

**Wednesday:**

Review for the midterm

**Thursday:**

**In Class:**

Review for the midterm (Chapters 1-3)

**Homework:**

Review for the midterm (Chapters 1-3)

**Friday:**

Study for the midterm that will take place next Monday and Tuesday. You are allowed 1 page (both sides) to use as a cheat sheet.

\*\*\*Final posters of City Project will be due next Thursday.

## Chapter 6 Quiz 1

Form G

Lessons 6-1 through 6-3

### Do you know HOW?

Use the data to make a frequency table.

1. Number of students per class: 25 32 19 22 25 15 30 27 24 28 25 18 26

Use the data to make a histogram.

2. Price per pound: \$2 \$4 \$4 \$3 \$6 \$5 \$2 \$1 \$8 \$4 \$5 \$6 \$6 \$7

Find the mean, median, mode, and range of each data set. ~~Which measure of central tendency best describes the data?~~

3. Books read: 5 9 7 9 12

4. Test scores: 77 92 84 97 72 88 77

Find the minimum, first quartile, median, third quartile, and maximum of each data set.

5. 275 257 301 218 265 242 201

6. 23 29 18 30 24 25 27 31 17

### Do you UNDERSTAND?

7. **Writing** Describe what each section of a box-and-whisker plot represents. What range of data is represented by the box? What range is represented by each whisker? Where are the minimum and maximum for the data displayed?

## Chapter 6 Quiz 2

Form G

Lessons 6-4 through 6-5

### Do you know HOW?

Determine if the data sets have a *positive correlation*, *negative correlation*, or *no correlation*.

1. Dollars spent: 31 32 34 33 38 36 37 35 37 33  
 Points Earned: 2 3 6 2 14 10 8 9 11 7

2. Quantity: 1.6 4.4 1.8 3.6 2.7 7.2 6.1 8.4 9.1 5.5  
 Discount: 17 28 4 12 5 9 31 20 6 25

3. Time in Days: 2 3 5 5 6 8 9 11 13 15  
 Account balance: 425 380 390 330 288 252 211 150 88 25

~~Find the equation for the line of best fit for the data shown below.~~

4. The data represents the amount of lead emissions from fuel combustion for the years 1988 ( $x = 0$ ) to 1997 ( $x = 9$ ).

$x$	0	1	2	3	4	5	6	7	8	9
$y$	511	505	500	495	490	495	494	488	493	496

SOURCE: *World Almanac 2000*, p. 169.

Create a two-way frequency table for the given scenario.

5. A survey asked a group of 186 ninth- and tenth-grade students whether they preferred to read fiction or non-fiction books. Of the 88 ninth-grade students, 56 preferred fiction novels. Of the tenth-grade students, 27 said that they preferred nonfiction books.

### Do you UNDERSTAND?

6. **Open-Ended** Explain how scatter plots can be helpful in predicting outcomes for a data set.

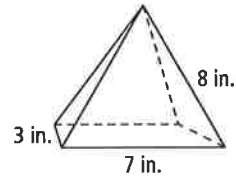
# Chapter 7 Quiz 1

Form G

Lessons 7-1 through 7-3

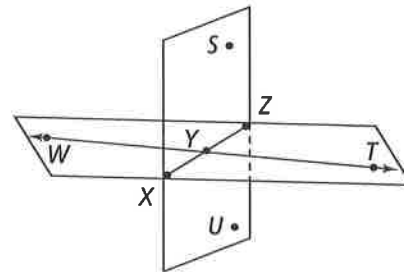
## Do you know HOW?

~~1~~ Draw the net for the figure and label the net with its dimensions.



Use the figure at the right for Exercises 2–4.

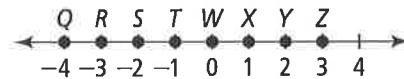
- Name two opposite rays.
- What plane contains points  $W$ ,  $X$ , and  $Y$ ?
- Are points  $T$ ,  $Z$ ,  $W$ , and  $U$  coplanar or noncoplanar?



Use the number line below for Exercises 5 and 6.

Name each of the following.

- the point on  $\overrightarrow{SY}$  that is 3 units from  $W$
- the coordinates of the midpoint of  $\overline{QX}$



## Do you UNDERSTAND?

- ~~7~~ **Compare and Contrast** How are isometric drawings and nets similar? How are they different?
- ~~8~~ **Error Analysis** Point  $T$  has a coordinate of 2,  $\overline{TR} = 10$ , and the coordinate of  $R$  is positive. Your classmate says the coordinate of the midpoint of  $\overline{TR}$  is 5. What is your classmate's error?

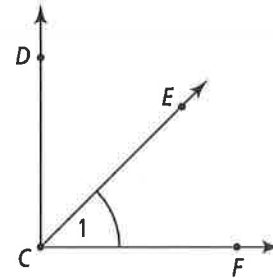
## Chapter 7 Quiz 2

Form G

Lessons 7-4 through 7-6

### Do you know HOW?

Use the figure at the right for Exercises 1-4.



1. What are two other names for  $\angle 1$ ?
2. If  $m\angle DCF = 90$ , what is  $m\angle DCE$ ?
3. If  $m\angle DCF = 90$ ,  $m\angle DCE = 3x + 12$ , and  $m\angle FCE = 4x + 1$ , find the value of  $x$ .
4. Are  $\angle DCE$  and  $\angle ECF$  vertical, complementary, or supplementary angles, if  $m\angle DCF = 90$ ?

Solve.

5.  $\overline{DG}$  has endpoints  $D(-1, 8)$  and  $G(3, 4)$ . What are the coordinates of its midpoint?
6.  $\overline{FR}$  has endpoints  $F(-2, 3)$  and  $R(1, 1)$ . What are the coordinates of its midpoint?
7. What is the distance between points  $L(8, 9)$  and  $Z(-10, 0)$ , to the nearest tenth of a unit?

### Do you UNDERSTAND?

8. **Error Analysis** Your classmate says that  $\angle GHI$  and  $\angle XHY$  are not congruent because they are not adjacent angles. The measure of each is 87. What is your classmate's error?
9. **Error Analysis**  $\overline{DE}$  has endpoints at coordinates  $-15$  and  $11$  along a number line. Your friend calculates the coordinate of the midpoint of  $\overline{DE}$  and says that it is  $-13$ . What is her error?

**Chapter 1 Quiz 1**

Form G

Lessons 1-1 through 1-4

**Do you know HOW?**

Simplify each expression.

1.  $-(7y + 12)$

2.  $\frac{2}{3}[9n - (-15)]$

3.  $(-a + 100)\frac{1}{5}$

Solve each equation. Check your answer.

4.  $45 = 3b + 69$

5.  $\frac{1}{3}(c - 2) = \frac{7}{3}$

6. What is the solution of  $5 = \frac{1}{2}v - 3$ ? Justify your steps.

Solve each equation. If the equation is an identity, write *identity*. If it has no real-number solution, write *no solution*.

7.  $10(x + \frac{1}{2}) = 3x + 5 + 7x$

8.  $\frac{n-1}{2} = 17$

Define a variable and write an equation to model each situation. Then solve.

9. The total cost for 8 bracelets, including shipping was \$54. The shipping charge was \$6. What was the cost of each bracelet?
10. One music download store charges a monthly fee of \$10 plus \$1 per song downloaded. Another music download store charges a monthly fee of \$30 for all the songs you want to download.
- How many songs would you have to download from the first store for the cost to be the same as the second store?
  - If you only download 15 songs per month, from which download store would you buy your music?

**Do you UNDERSTAND?**

11. **Reasoning** When solving a multi-step equation, does it matter in which order the operations are performed? Explain.

**Chapter 1 Quiz 2**

Form G

Lessons 1-5 through 1-9

**Do you know HOW?**

Convert the given amount to the given unit.

~~1.~~ 6 min; seconds

~~2.~~ 112 dollars; cents

~~3.~~ 3.5 lbs; ounces

Solve each proportion. Explain your reasoning.

~~4.~~  $\frac{x+10}{4} = \frac{3}{2}$

~~5.~~  $\frac{5}{a} = \frac{10}{a+1}$

Solve each inequality. Graph the solutions.

6.  $3x + 2 > 5x - 8$

7.  $3x + 11 \leq 8$

8.  $10 - 3x \leq 7x$

9.  $2(4x - 1) \geq 62$

Write an inequality that represents each situation. Graph the solutions.

10. A hamster weighs less than 10 ounces.

11. The freezer temperature is to be kept between 15°F and 25°F, inclusive.

12. A contestant on a game show must guess the price of a new car. The contestant will win if his guess is within \$1000 of the price of the car. If the price of the car is \$24,995 and the contestant's guess is represented by  $g$ , what absolute value inequality represents this situation? (Do not graph.)**Do you UNDERSTAND?**~~13.~~ **Reasoning** How are ratios and proportions the same? How are they different?14. **Reasoning** Why does the equation  $-2|x + 4| = 6$  have no solution?

## Chapter 2 Quiz 1

Form G

Lessons 2-1 through 2-3

### Do you know HOW?

Sketch a graph to represent the situation. Label each section.

- The level of water in a river rose rapidly during the storm and then gradually decreased back to the original level.
- The volume of a ball increased as more air was added.

For each table, determine whether the relationship is a function. Then represent the relationship using words, an equation, and a graph.

3.

$x$	$y$
0	0
1	4
2	8
3	12

4.

$x$	$y$
4	7
2	5
0	3
2	1

Each set of ordered pairs represents a function. Write a rule that represents the function.

- $(0, 5), (1, 6), (2, 7), (3, 8), (4, 9)$
- $(0, 0), (1, -2), (2, -4), (3, -6), (4, -8)$
- $(0, 2), (1, 5), (2, 8), (3, 11), (4, 14)$
- ~~$(0, 1), (1, 2), (2, 4), (3, 8), (4, 16)$~~

### Do you UNDERSTAND?

- Writing** Is the point  $(\frac{7}{2}, \frac{3}{2})$  on the graph of  $6x - 2y = 18$ ? How do you know?

- ~~**Reasoning**~~ What is the rule for the function represented by  $(0, \frac{7}{8}), (1, 2), (2, \frac{25}{8}), (3, \frac{17}{4}), (4, \frac{43}{8})$ ? Explain your reasoning.



**Chapter 2 Quiz 2**

Form G

Lessons 2-4 through 2-7

**Do you know HOW?**

Write a function rule that represents each sentence.

1. 7 less than three times  $m$  is  $n$ .
2. 14 more than the quotient of a number  $t$  and 10 is  $u$ .
3. 5 times the difference of a number  $p$  and 3 is  $q$ .

Identify the domain and range of each relation. Use a mapping diagram to determine whether the relation is a function.

4.  $\{(3, 1), (5, 7), (8, 9), (10, 12)\}$
5.  $\{(3, 2.1), (4, 3.1), (5, 4.1), (6, 5.1)\}$
6.  $\{(-8, 4), (-10, 5), (-11, 6), (-12, 7)\}$
7.  $\{(4.6, 2.8), (5, 2.2), (5.2, 2), (5.6, 1.8)\}$

Find the range of each function for the given domain.

8.  $f(x) = 2x + 2$ ;  $\{-1, 0, 1, 2, 3\}$
9.  $f(x) = x^2 + 5$ ;  $\{-3, -1, 0, 2, 4\}$
10.  $f(x) = -6x + 5$ ;  $\{-1, 0, 1, 2, 3\}$
11.  $f(x) = x^2 - 4$ ;  $\{-2, -1, 0, 3, 4\}$

Tell whether each sequence is arithmetic. Justify your answer. If the sequence is arithmetic, write a recursive and an explicit formula to represent it.

12. 5, 10, 15, 20, ...
13. 200, 100, 50, 25, 12.5, ...
14.  $-8.1, -5.8, -3.5, -1.2, \dots$

15. Write a function rule for the area of a rectangle whose length is 10 ft more than its width. What is the area of the rectangle when its width is 12 ft?

**Do you UNDERSTAND?**

16. **Open-Ended** Write an arithmetic sequence that is decreasing. Write an explicit function rule to represent the arithmetic sequence.
17. **Writing** Describe how to use the vertical line test to determine whether a graph is a function.

**Chapter 3 Quiz 1**

Form G

Lessons 3-1 through 3-4

**Do you know HOW?**

Find the slope of the line that passes through each pair of points.

1.  $(-2, 5), (8, -4)$

2.  $(6, 7), (2, 4)$

3.  $(-4, -5), (-3, -9)$

4.  $(6, -2), (-3, 7)$

- ✗ At 6:00 A.M., there were 800,000 gallons of water remaining in a reservoir. After 8 hours of irrigation, there were 100,000 gallons of water remaining. Write a linear equation that describes the number of gallons of water remaining as a function of the time the field had been irrigated.

Write an equation for the line that passes through the given point with the given slope  $m$ .

6.  $(10, 1); m = \frac{1}{5}$

7.  $(-9, 8); m = -5$

8.  $(-4, -5);$  undefined slope

9. Write an equation for the line that passes through the points
- $(-2, 2)$
- and
- $(2, -8)$
- .

**Do you UNDERSTAND?**

- 10.
- Writing**
- Explain the difference between a rate of change that is positive and one that is negative. Give an example of each.

- ✗ **Reasoning** If  $y$  varies directly with  $x$  and  $x$  increases by 2, is it possible to determine by how much  $y$  increases or decreases? Explain.

**Chapter 3 Quiz 2**

Form G

Lessons 3-5 through 3-7

**Do you know HOW?**

Graph each equation.

1.  $y = 2x + 1$

2.  $y = -\frac{3}{4}x + 2$

3.  $2x + 3y = 9$

4. Write an equation of the line that passes through  $(-4, 2)$  and is parallel to the graph of  $5x + y = 8$ .

5. Write an equation of the line that passes through  $(4, -3)$  and is perpendicular to the graph of  $y = \frac{3}{7}x - 5$ .

~~X~~ A marble is flicked into a wall and then rebounds away before coming to a stop. The marble passed through the point  $(-4, 3)$ , bounced off the wall at the point  $(2, 0)$ , and then passed through the point  $(5, \frac{3}{2})$  before stopping. Graph the scenario, and then find the absolute value equation it represents.

**Do you UNDERSTAND?**

~~X~~ **Writing** Explain how the values of  $h$  and  $k$  in  $y = |x - h| + k$  affect the graph of  $y = |x|$ .