GEOMETRY – UNIT 11 AGENDA
Modeling in the Coordinate Plane Part 2 – 2023
subject to change

DATE	DAY	LESSON	PAGE	HOMEWORK
4/10 MON	11.1	Partitioning a Segment day 1	1 – 2	Start Page 4 for homework
4/11 TUES	11.2	Partitioning a Segment day 2	3 – 4	Complete page 4
4/12 WED	11.3	Partitioning Activity	5 – 7	Complete pages 8 & 9
4/13 THURS	11.4	Review for Quiz	10 – 12	**DUE TOMORROW:** pages 4, 8 – 9, 11 – 12
4/14 FRI	11.5	**QUIZ TODAY! GOOD LUCK!!**		
4/17 MON	11.6	Perimeter & Area	13 – 14	
4/18 TUES		Putting It All Together		Start Test Review pages 15 & 16
4/19 WED	11.7	Review	15 – 16	Test Review pages 15 & 16 due tomorrow
4/20 THURS	11.8	**TEST TODAY! GOOD LUCK!!**		

Geometry **Name:** _____
Partitioning Segments **Date:** _____ **Period:** _____

WARM-UP: Find the missing point of the segment.

1. Endpoint: (-12, 8) and Endpoint: (-2, -2)
   Find the midpoint.

2. Endpoint: (18, 0) and Endpoint: (30, -6)
   Find the midpoint.

3. Endpoint: (5, -10) and Midpoint: (8, -8)
   Find the other endpoint.

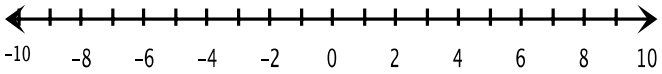
4. Endpoint: (5, -13) and Midpoint: (1, -7)
   Find the other endpoint.

1. The Atlanta Zoo has a 100ft piece of bamboo to feed their pandas. The pandas are in 2 different areas. Area A has a total of 14 pandas, and area B has a total of 11 pandas. How much bamboo should each area get so that each panda has the same amount of bamboo?

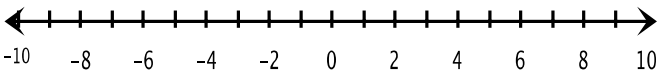
2. The Columbia Zoo has a 40 feet piece of bamboo to feed their pandas. They need to feed a group of 3 pandas and a group of 5 pandas. How much does each group get?

Partitioning a segment (one variable): _____ (a:b) is the given ratio

1. A is at 9 and B is at –3. Find the point, T, so that T partitions A to B in a 1:1 ratio.



2. A is at -2 and B is at 7. Find the point, T, so that T partitions A to B in a 1:2 ratio.

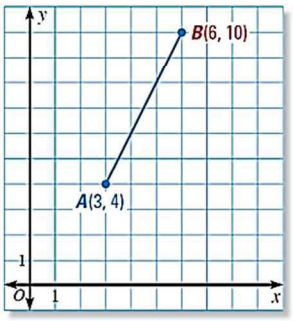


Mile Markers are what the Department of Transportation uses to identify where you are on a highway. Generally mile markers start with the number 1 on the south end of the state and go up as you go north. Same thing from west to east.

3. If you start at mile marker 12 and end up at mile marker 48, which mile marker is 2/3 of the way?

4. If you start at mile marker 28 and end up at mile marker 108 which mile marker is 5/8 of the way?

Partitioning a Segment (two variables): _____



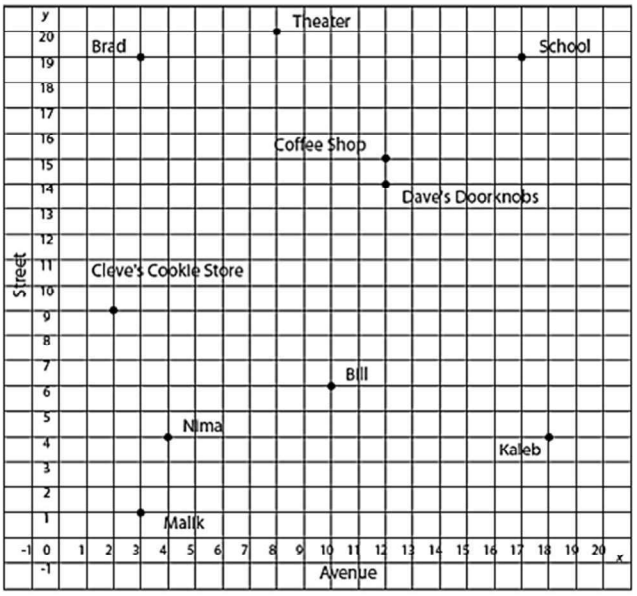
1. Find the coordinates of *P* along the directed line segment *AB* so that the ratio of *AP* to *PB* is 3 to 2.

2. Find the coordinates of point P along the directed line segment AB so that AP to PB is the given ratio.
A(1, 3), B(8, -4); 4 to 1.

3. Find the coordinates of point P along the directed line segment AB so that AP to PB is the given ratio.
A(-3, -8), B(4, 6); 2 to 2.

CAREFUL! Sometimes the ratio is already written as $\frac{a}{a+b}$.

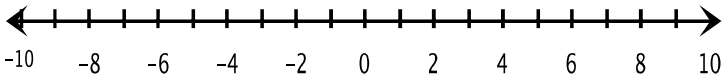
4. Malik and Brad both live on 3rd Avenue. Malik lives at the corner of 1st Street, and Brad lives at the corner of 19th Street. A market is $^2/_3$ the distance from Malik's apartment to Brad's apartment. Where is the market?



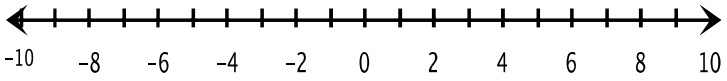
5. Kaleb's lost control of his model plane $^1/_4$ the way to the theater on 8th Avenue and 20th Street. Kaleb lives at the corner of 18th Avenue and 4th Street. What are the possible coordinates for the plane?

CLASSWORK!!

1. A is at -8 and B is at 8. Find the point, T, so that T partitions A to B in a 6:2 ratio.



2. A is at 2 and B is at 6. Find the point, T, so that T partitions A to B in a 1:4 ratio.



3. Mile Markers are used for the Silver Comet trail to help identify where you are on the trail. They start at 1 at the beginning and go up as you continue the trail. Suppose you are riding a bike for exercise.

A. Your starting point is mile marker 3 and you end at 12. What marker divides your trip into a 2:1 ratio?

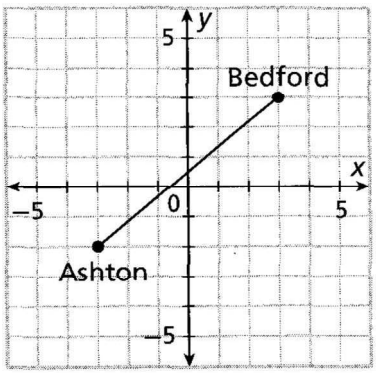
B. Your starting point is maker 8 and your ending is marker 32. What marker is 3/8 the way into your ride?

4. Find the coordinates of T that partitions A(4, 8) to B(5, 3) in a 1:3 ratio.

5. Find the coordinates of T that partitions A(-3, 6) to B(4, 12) in a 2:3 ratio.

6. Find the coordinates of point P along the directed line segment AB so that AP to PB is the given ratio.
A(-2, -4), B(7, -10); 9 to 1.

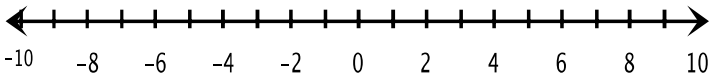
7. The map shows a straight highway between two towns. Highway planners want to build two new rest stops between the towns so that the two rest stops divided the highway into three equal parts. Find the coordinates of the points at which the rest stops should be built.



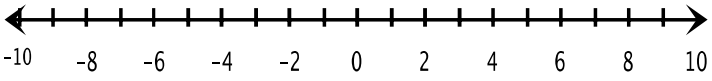
Geometry **Name:** _____

Homework – Partitioning Segments **Date:** _____

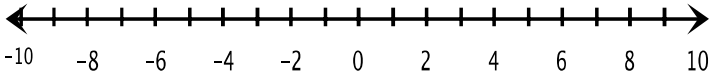
1. A is 5 and B is at -7. Find the point, T, so that T is five-sixths of the distance from A to B.



2. A is at -8 and B is at 8. Find the point, T, so that T partitions A to B in a 6:2 ratio.



3. A is at 2 and B is at 6. Find the point, T, so that T partitions A to B in a 1:3 ratio.

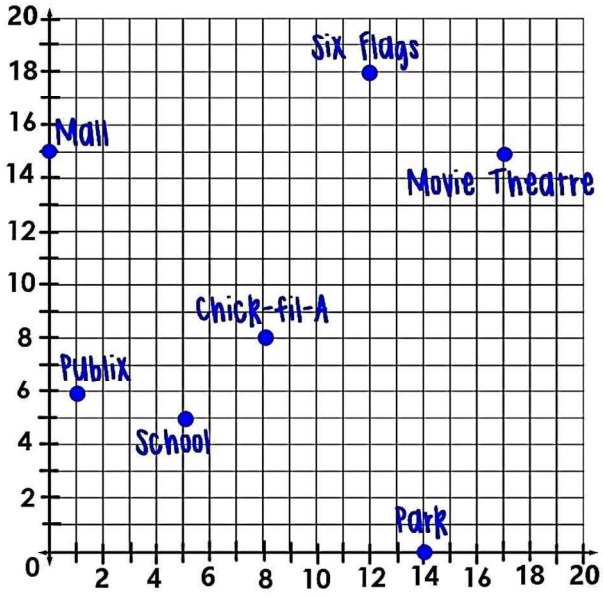


4. Find the coordinates of T that partitions A(-7, 42) to B(19, 3) in a 10:3 ratio.

5. Find the coordinates of T so that T is three-fifths the distance from A(13, -8) to B(18, -18).

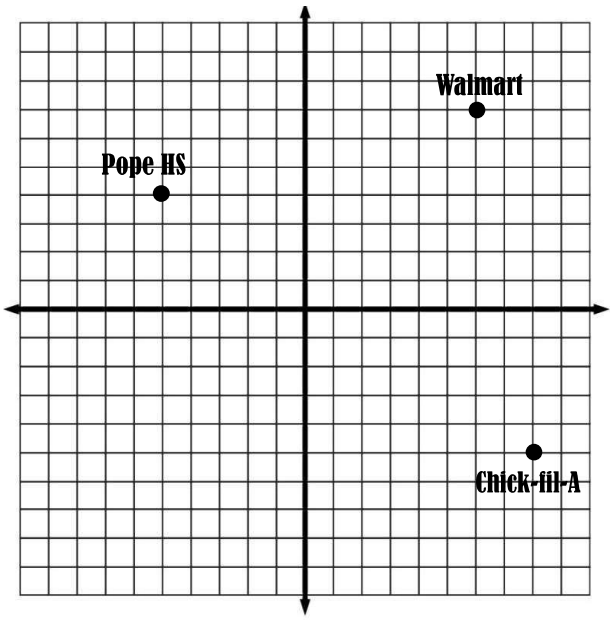
6. Riley is going to the mall after school. She drops her phone 1/5th of the way from the school to the mall. Where did she drop her phone?

7. Camden currently at Publix picking up some sunscreen and then is driving to Six Flags. He has to stop at the gas station which is halfway between Publix and Six Flags. Where is the gas station?



8. Shane is at the park and is meeting Jives at the soccer field that is two-thirds of the way from the park to the movie theatre. Where is the soccer field?

Warm-Up



1. How far is Pope HS to Walmart?

2. There is a gas station halfway between Pope HS and Chick-fil-A. Where is it located?

3. You want to take your dog to the park that is between Walmart and Chick-fil-A. The parks distance from Walmart to ChickfilA can be represented by a ratio 3:1. Where is the park?

Name: _____

EXPLORING DISTANCES AT THE PARK

Answer each question below. Locate and label each item on the coordinate plane. Show your work in the spaces provided.

1. Holly wants to create a map of her local park on the grid. Each unit is equal to 1 meter. Plot these locations:
   Oak Tree (8, 10) Slide (-4, -6) Bike Rack (5, -6)

2. How far is the slide from the bike rack?

3. A duck is standing at the midpoint between the slide and bike rack. Where is the duck?

4. A duckling is also between the slide and bike rack, but not at the midpoint. The duckling's distance from the slide and distance from the bike rack can be represented by the ratio 7:2. Where is the duckling?

5. How far is the oak tree from the slide?

6. If Holly stands at the midpoint between the oak tree and slide, what is her location?

7. The water fountain is located between the oak tree and slide, but not at the midpoint. The ratio of the water fountain's distance from the oak tree to the distance from the slide is 1:3. Where is it located on the coordinate plane?

8. The picnic table is located 8 meters from the slide and 6 meters from Holly. The duck and duckling are not near the picnic table. Where is the picnic table?

9. A goose is standing between the picnic table and oak tree. Its location partitions the distance between the picnic table and oak tree in the ratio 3:1. Where is the goose?

10. What is Holly's distance from the goose?

11. Joseph is exactly 13 meters from Holly, and he is located in the 4th quadrant on the grid. Where is Joseph?

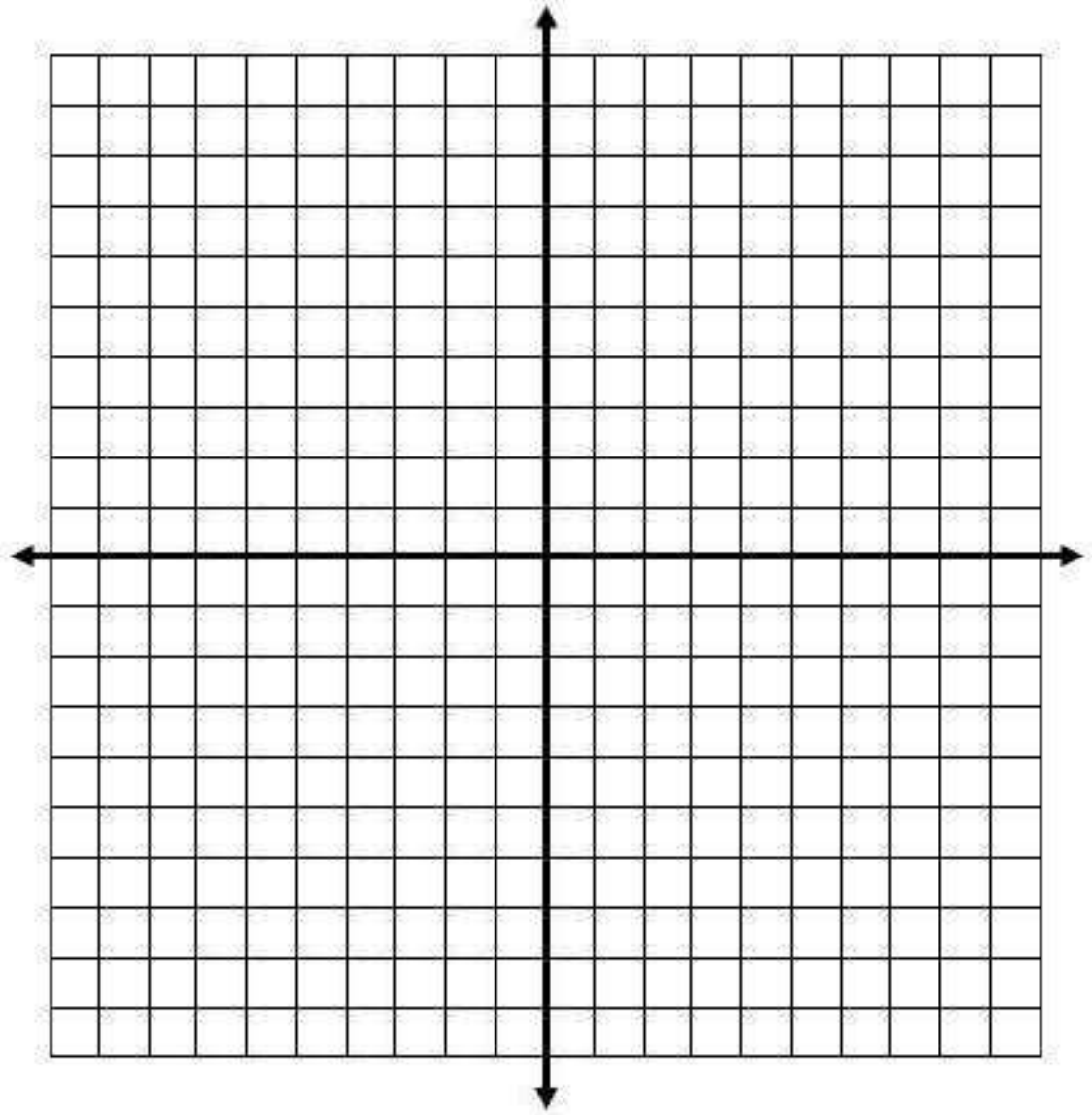
12. If Holly and Joseph race to the slide, who is likely to win if they can run the same speed?

13. The goose is standing at the midpoint between in the oak tree and magnolia tree. Where is the magnolia tree?

14. The duck is standing at the midpoint between Joseph and tire swing. Where is the tire swing?

Name: _____

EXPLORING DISTANCES AT THE PARK



Geometry **Name:** _____

Homework – Partitioning Line Segments

1. Find the coordinates of P so that P partitions the directed segment AB in the ratio 5:1 if A(2, 4) and B(8, 10).

2. Find the coordinates of P so that P partitions the directed segment AB in the ratio 1 to 3 if A(-5, 4) and B(7, -4).

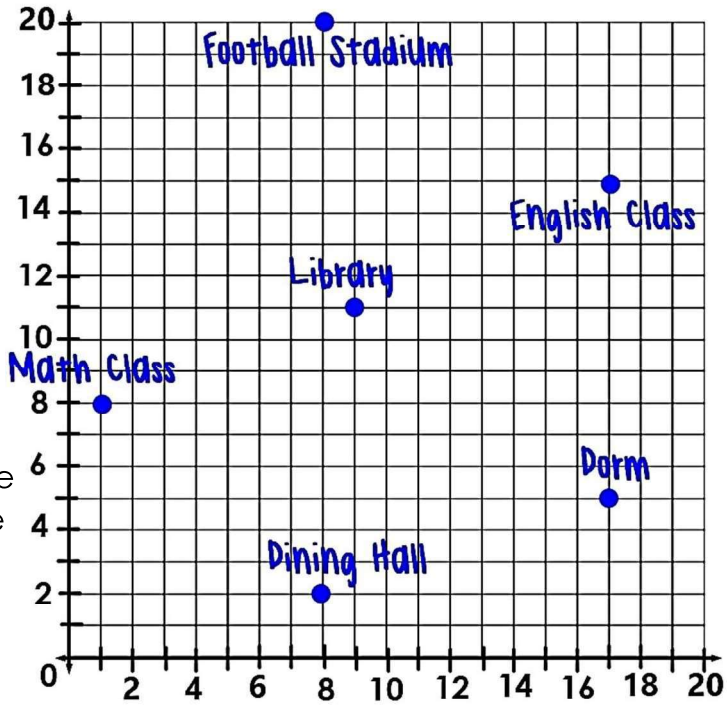
3. Find the coordinates of P so that P partitions the directed segment AB in the ratio 3:4 if A(-9, -9) and B(5, -2).

4. Find the coordinates of P so that P partitions the directed segment AB in the ratio 5 to 2 if A(-8, -2) and B(6, 19).

5. Given the points A(-2, 5) and B(2, 3), find the coordinates of the point P on directed line segment AB that partitions AB into a ratio of 3 to 5.

Use the graph of the UGA campus to answer the following questions. GO DAWGS!

6. On a beautiful Saturday afternoon in Athens, you leave your dorm to go to a football game at the stadium. You stop at the bookstore four-fifths of the way to get some red UGA pom poms. Where is the bookstore located?



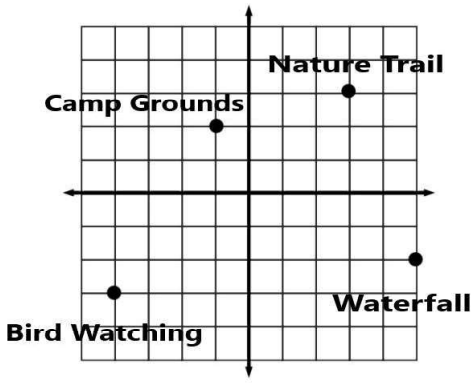
7. After winning a big rivalry game at the football stadium, you plan to meet some friends at the Game Center, which is 1/6 of the way from the stadium to the dining hall. Where is the Game Center located?

8. On the way to your big math midterm exam, you leave the library and stop at the coffee shop which is one-fourth of the way to your math class. Where is the coffee shop located?

9. You always make sure to grab some breakfast before your 8AM English class. On your walk from the dining hall to your English class, you stop halfway to enjoy the beautiful sunrise over the park. What is the location of your favorite sunrise spot?

10. You left math class and walked to the intramural field to play in a baseball game. The intramural fields are located five-eighths of the way from your math class to your English class. Where are these fields located?

The endpoint of a segment is at (8, 2). The midpoint of a segment is at (10, -5). What is the other endpoint?



The Camp Grounds is the midpoint between the nature trail and the boat ramp. Where is the boat ramp?

Geometry Name: _____

Quiz Review – Partitioning, Distance, & Midpoint

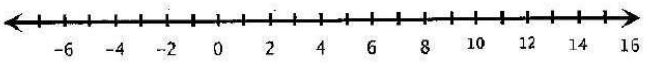
1. Find the missing point for each problem:

A. Endpoint: (4, 10)
Midpoint: (2, -1)
Endpoint: _____

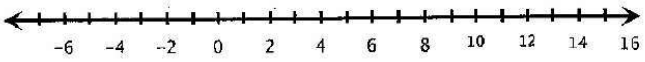
B. Endpoint: (7, -19)
Endpoint: (21, -3)
Midpoint: _____

C. Midpoint: (38, -9)
Endpoint: (57, -20)
Endpoint: _____

2. Find the point T, so that it partitions A to B in a 3:1 ratio. A is at 8 and B is at -4.



3. Find the point T, so that it partitions A is two-thirds of the way to B. A is at -7 and B is at 2.

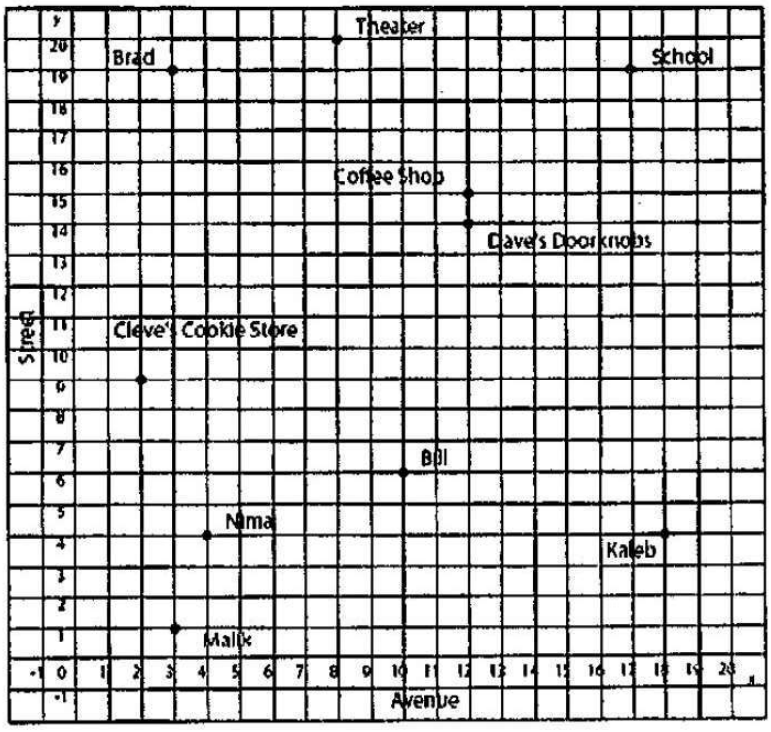


4. Find the coordinates of T that partitions A(4, -12) to B(8, 10) in a 1:3 ratio.

5. Find the coordinates of T that partitions A(0, 6) to B(-10, -8) in a 3:1 ratio.

6. Using points A (22, 6) and B (7, -1), find point T that is two-fifths **from point B**.

Use the map and the information given to solve each problem that follows.



7. Luis works at a theater on 8th Avenue and 20th Street. Kaleb lives at the corner of 18th Avenue and 4th Street. What is the location that is midway between them?

8. Nima lives at the corner of 4th Avenue and 4th Street. Bill lives at the corner of 10th Avenue and 6th Street. Their favorite bakery is located one-third the way from Nima's to Bill's house. Where is the bakery?

9. Cleve's Cookie Store is located at the corner of 2nd Avenue and 9th Street. Dave's Doorknobs is located at the corner of 12th Avenue and 14th Street. Located 1/5 of the distance from Cleve's Cookie Store is the post office. Where is the post office?

10. Malik and Brad both live on 3rd Avenue. Brad lives at the corner of 19th Street, and Malik lives at the corner of 1st Street. 2/3 of the distance from Brad's apartment to Malik's apartment is a park. Where is the park?

11. If 1 block = 1 kilometer, how far does Kaleb have to walk to get from his house to school? (Round your answer to 1 decimal place).

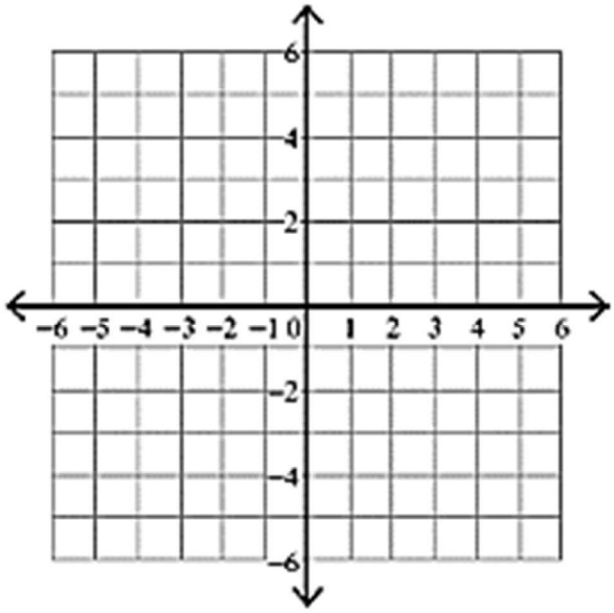
12. If the coffee shop is the halfway between the theatre and the mall, where is the mall located?

Geometry
Perimeter & Area

Name: _____
Date: _____ Period: _____

Plot coordinates and construct the figure. Name the figure, find lengths needed to solve for the perimeter & area of EACH figure. Round to two decimal places if needed.

1.



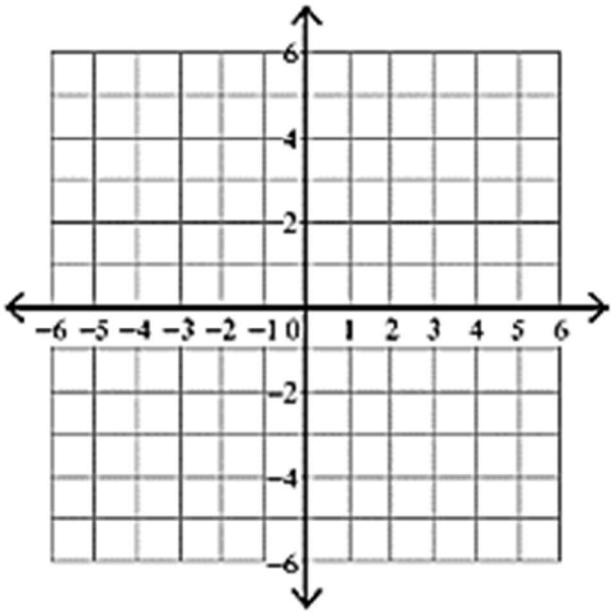
ISOSCELES TRIANGLE

Points: (0, 0), (-3, 3), & (3, 3)

Perimeter: _____

Area: _____

2.



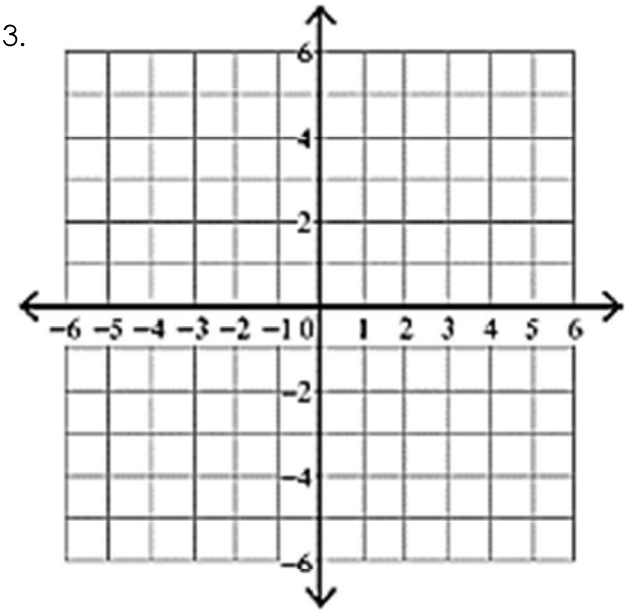
PARALLELOGRAM

Points: (-2, -2), (4, -2), (2, 3), & (-4, 3)

Perimeter: _____

Area: _____

3.



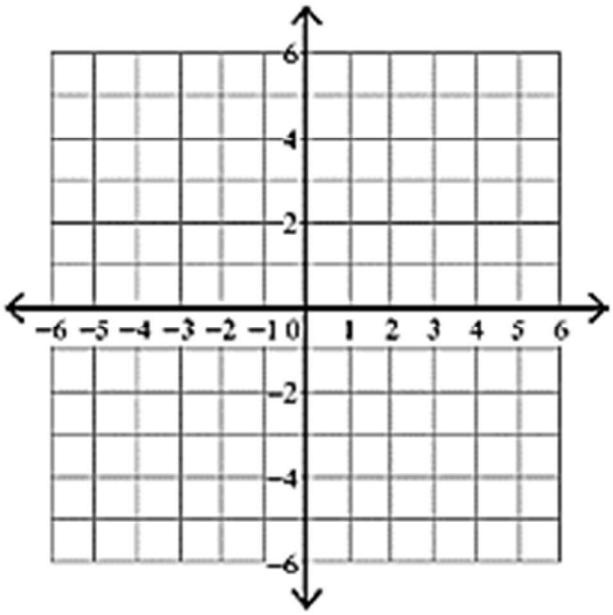
SQUARE

Points: (1, -3), (1, 5), (-3, 1), & (5, 1)

Perimeter: _____

Area: _____

4.



RECTANGLE

Points: (-5, -3), (-4, -6), (4, 0), & (5, -3)

Perimeter: _____

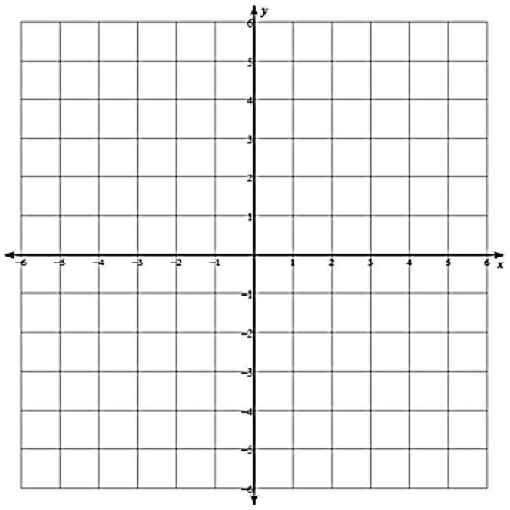
Area: _____

Geometry – DAY 11.7 Name: _____

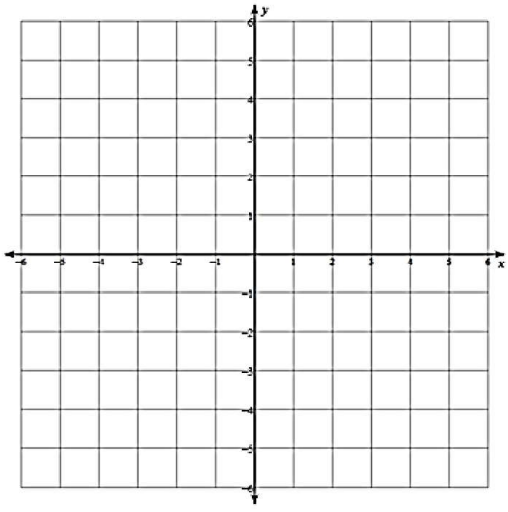
Test Review – Unit 12 Date: _____

Find the perimeter of the given shape. Round to the nearest tenth.

1. I(1, 2), C(6, 5), and E(3, 6)

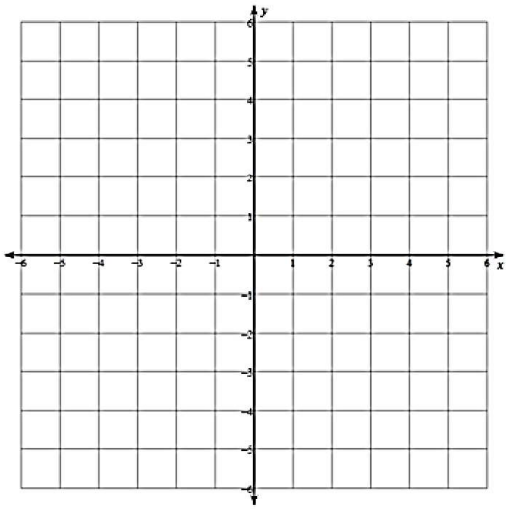


2. M(2, 5), A(-3, 0), T(2, -5), and H(6, 0)

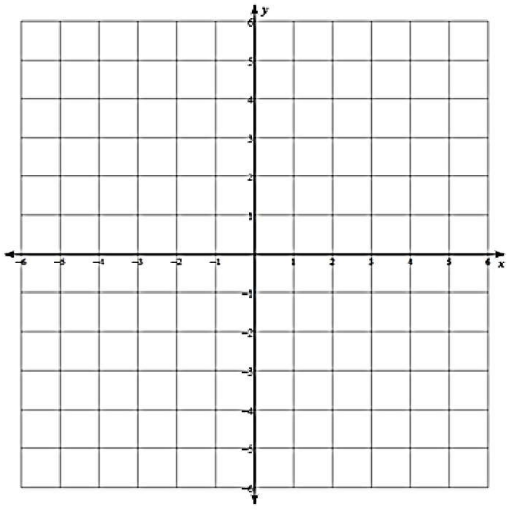


Find the area of the given shape. Round to the nearest tenth.

3. P(-3, -3), E(-3, 4), and N(4, 2)



4. M(-5, 1), A(-1, 5), S(3, 1), and K(-1, -3)



FORMULAS

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$A_{triangle} = \frac{1}{2}bh$$

$$A_{rectangle} = lw$$

$$A_{square} = s^2$$

Formula for partitioning segments: _____

8. Find the point T so that the directed line segment from A(1,2) to B(3,9) is partitioned into a ratio of 2:3.

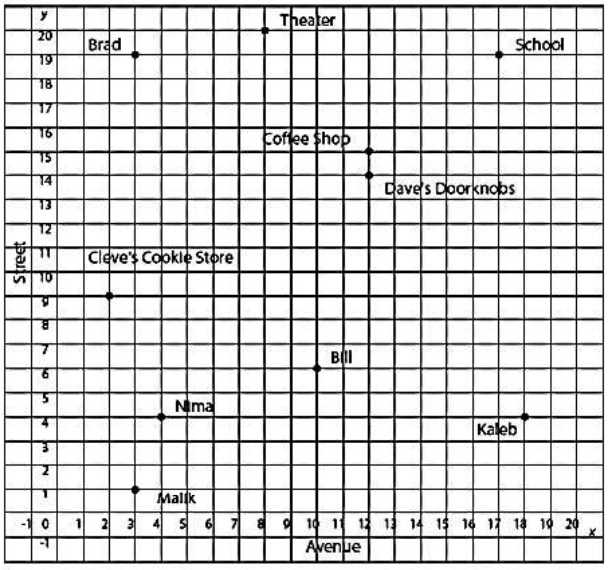
9. Find the point T so that the directed line segment from A(-2, 5) to B(4,-1) is partitioned into a ratio of 1:4.

10. The point T is located three-fourths the distance from A(0, 4) to B(-1,-1). Find the point T.

11. Find the coordinates of T that partition A(-9,5) to B(3,-1) into a 4:5 ratio.

12. Find the coordinates of T that partition A(9, -10) to B (1,0) into a 5:2 ratio.

13. A great steakhouse is $^4/_5$ of the way from Kaleb's to Dave's Doorknobs. Where is it?



14. The bowling alley is located $^1/_2$ of the way from Malik's to Kaleb's. How far will Bill have to travel to join them?