

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

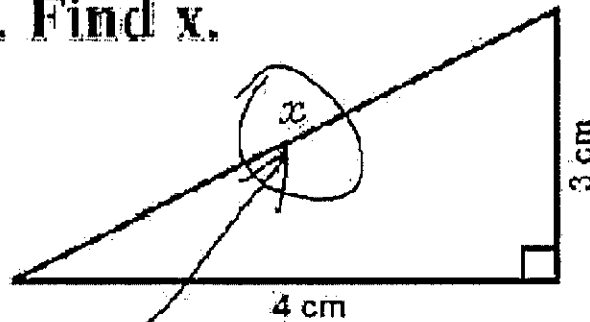
Hour: \_\_\_\_\_

# Unit J:

## Coordinate Geometry

### Geometry 1st Semester

3. Find  $x$ .



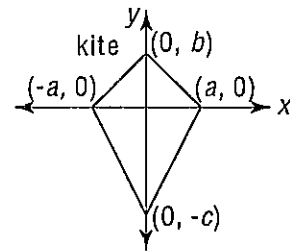
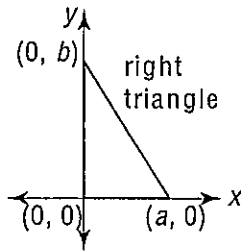
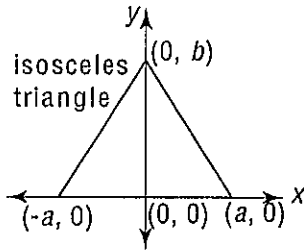
*Here it is*

## Lesson 11-5: Proofs with the Coordinate Plane

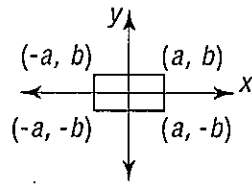
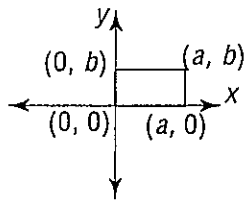
### Vocabulary

Convenient Locations: \_\_\_\_\_

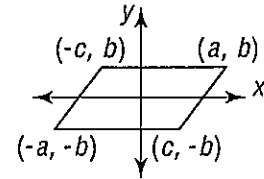
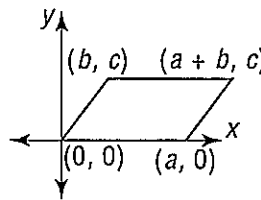
Examples:



rectangle (two convenient locations)



parallelogram (two convenient locations)



Remember...

Slope ( $m$ ) = \_\_\_\_\_ for any two points  $(x_1, y_1)$  and  $(x_2, y_2)$ .

Parallel lines have the same \_\_\_\_\_.

Perpendicular lines have slopes that are \_\_\_\_\_ & \_\_\_\_\_.

### Practice

- Given: ABCD with vertices  $A = (0, 0)$ ,  $B = (8, 0)$ ,  $C = (11, 12)$ , and  $D = (3, 12)$ .  
Prove or disprove: ABCD is a parallelogram.

2. Write a proof argument.

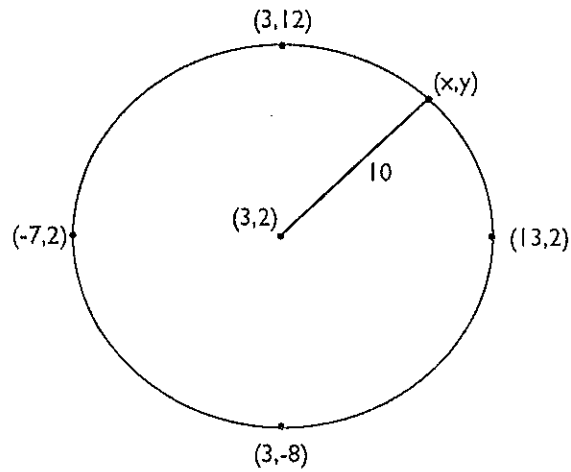
Given: Quadrilateral PQRS with  $P = (a, b)$ ,  $Q = (c, b)$ ,  $R = (-a, -b)$ , and  $S = (-c, -b)$ , such that  $a = c$  and  $-a = -c$ .

Prove: PQRS is a parallelogram.

3. If  $T = (3, 6)$ ,  $O = (-1, -2)$ , and  $W = (-3, 1)$ , use an indirect proof to show that  $WO$  is not perpendicular to  $WT$ .



## Lesson 11-7: Equations of Circles



### Vocabulary

Equation for a Circle: \_\_\_\_\_

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Formula:

### Practice

1. Write an equation for the circle with center  $(0, -4)$  and radius 7.
2. Find the center and radius of the circle with equation:  
Center: \_\_\_\_\_  
Radius: \_\_\_\_\_
3. What is the general form of an equation for a circle with center  $(0, 0)$ ?

## Lesson 11-8: Means & Midpoints

### Vocabulary

Number Line Midpoint Formula: \_\_\_\_\_

\_\_\_\_\_

Coordinate Plane Midpoint Formula: \_\_\_\_\_

\_\_\_\_\_

Midpoint Connector Theorem: \_\_\_\_\_

\_\_\_\_\_

### Practice

1. Find the midpoint of the segment.



2. Find the midpoint of the segment connecting (3, 15) and (9, 8).
3. Triangle ABC has side lengths 15, 27, and 38. Triangle LMN is formed by connecting the midpoints of ABC. What are the side lengths of triangle LMN?