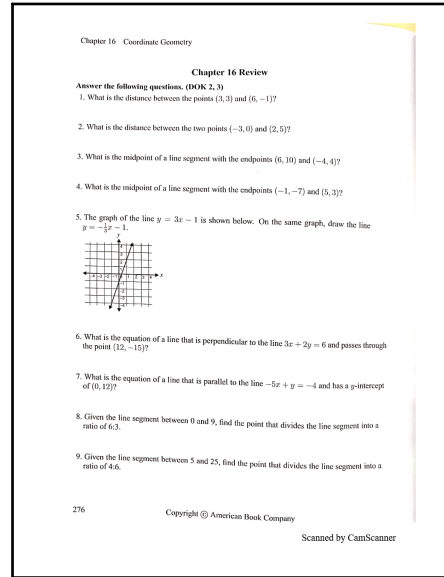
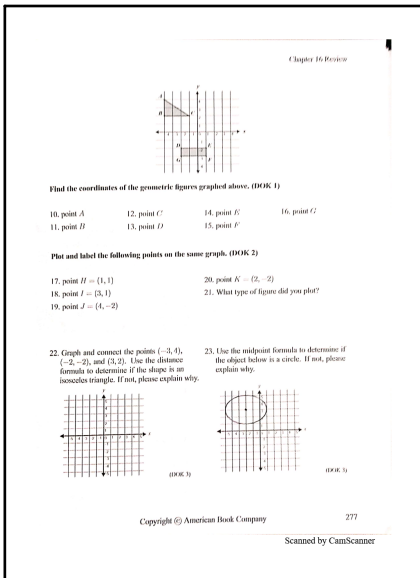


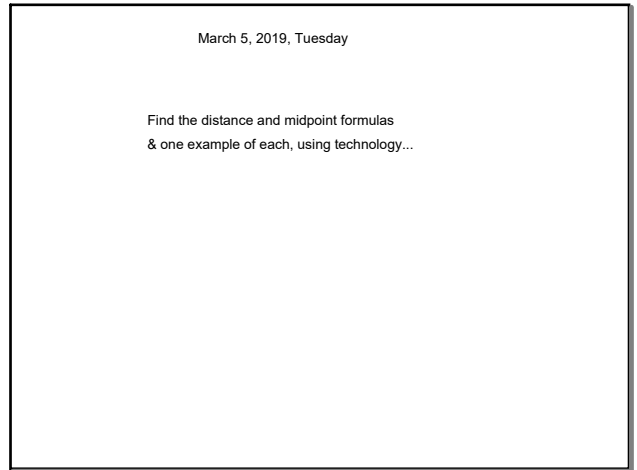
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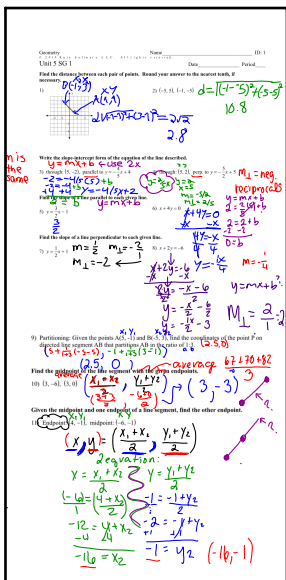
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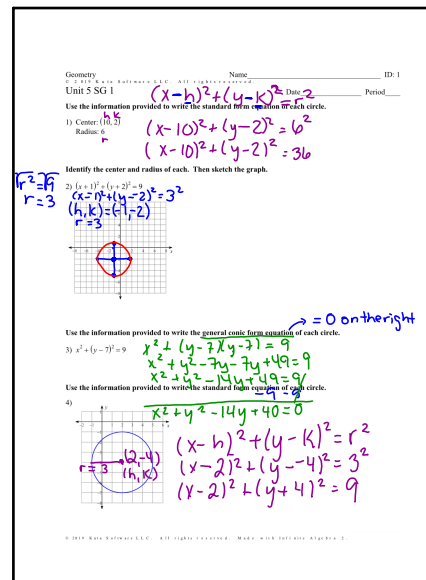
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Mar 5-10:33 AM



Mar 5-10:35 AM



Mar 5-10:35 AM

March 5, 2019, Tuesday

Use the internet to discover 3-5 geometric properties about parallelograms  
...be ready to share

Feb 26-2:16 PM

name \_\_\_\_\_

Geometry we about the parallelogram

1. Definition of a Parallelogram:

Properties:

Sides	Angles	Diagonals
2. _____	3. _____	5. _____
_____	4. _____	6. _____

Fill in the blank with the correct word.

7. The opposite sides of a parallelogram are \_\_\_\_\_.

8. The opposite angles of a parallelogram are \_\_\_\_\_.

9. The consecutive angles of a parallelogram are \_\_\_\_\_.

10. The diagonals of a parallelogram \_\_\_\_\_ each other.

CHOICES  
Congruent  
Supplementary  
Bisect

Study these properties!  
There will be questions like this on the quiz!

Look at the markings on the picture to determine if the quadrilateral is a parallelogram, and if so, why.  
Choices are:

Opposite sides are $\cong$ .	Opposite sides are $\parallel$ .	Opposite angles are $\cong$ .
Consecutive angles are supplementary.	Diagonals bisect each other.	Not a parallelogram (None)

11.

12.

13.

14.

15.

16.

17.

18.

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Find the measure of each angle or length of each segment.

19. RTVW is a PARALLELOGRAM

20. MFGJ is a PARALLELOGRAM

21. AESN is a PARALLELOGRAM

WW = \_\_\_\_\_ VT = \_\_\_\_\_

m $\angle$ C = \_\_\_\_\_ m $\angle$ KFG = \_\_\_\_\_

m $\angle$ B = \_\_\_\_\_ m $\angle$ M = \_\_\_\_\_

m $\angle$ T = \_\_\_\_\_ m $\angle$ MFG = \_\_\_\_\_ m $\angle$ NSE = \_\_\_\_\_

m $\angle$ V = \_\_\_\_\_ m $\angle$ G = \_\_\_\_\_ m $\angle$ NAE = \_\_\_\_\_ m $\angle$ Z = \_\_\_\_\_

MK = \_\_\_\_\_ KG = \_\_\_\_\_ AT = \_\_\_\_\_ AS = \_\_\_\_\_

NT = \_\_\_\_\_ NE = \_\_\_\_\_

JKLM is a parallelogram. Find JK and KL.

WXYZ is a parallelogram. Find the missing angle measures.

22.

23.

24.

25.

JK = \_\_\_\_\_ KL = \_\_\_\_\_ JK = \_\_\_\_\_ KL = \_\_\_\_\_

m $\angle$ X = \_\_\_\_\_ m $\angle$ W = \_\_\_\_\_ m $\angle$ Z = \_\_\_\_\_ m $\angle$ Y = \_\_\_\_\_

m $\angle$ Y = \_\_\_\_\_

BCDE is a parallelogram. Find the segments.

26.

27.

28.

DF = \_\_\_\_\_ BD = \_\_\_\_\_ DF = \_\_\_\_\_ FB = \_\_\_\_\_

m $\angle$ C = \_\_\_\_\_ m $\angle$ D = \_\_\_\_\_

CD = \_\_\_\_\_ AD = \_\_\_\_\_

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29. a. m $\angle$ F = \_\_\_\_\_

b. m $\angle$ FQH = \_\_\_\_\_

c. m $\angle$ Z = \_\_\_\_\_

d. m $\angle$ 1 = \_\_\_\_\_

30. a. m $\angle$ S = \_\_\_\_\_

b. m $\angle$ PTS = \_\_\_\_\_

c. m $\angle$ 3 = \_\_\_\_\_

d. m $\angle$ 2 = \_\_\_\_\_

31. a. m $\angle$ 1 = \_\_\_\_\_

b. m $\angle$ 2 = \_\_\_\_\_

c. m $\angle$ 3 = \_\_\_\_\_

d. AX = \_\_\_\_\_ AC = \_\_\_\_\_

32. a. BX = \_\_\_\_\_

b. BD = \_\_\_\_\_

c. XC = \_\_\_\_\_

d. AC = \_\_\_\_\_

Use the properties of parallelograms to write and solve an algebraic equation for each picture.

33.

Parallelogram Rule: \_\_\_\_\_

Relationship: Congruent or Supplementary

Equation: \_\_\_\_\_

x = \_\_\_\_\_

34.

Parallelogram Rule: \_\_\_\_\_

Relationship: Congruent or Supplementary

Equation: \_\_\_\_\_

x = \_\_\_\_\_

35.

Parallelogram Rule: \_\_\_\_\_

Relationship: Congruent or Supplementary

Equation: \_\_\_\_\_

x = \_\_\_\_\_

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Use the properties of parallelograms to write and solve an algebraic equation for each picture. Find x and y.

36.

Parallelogram Rule: \_\_\_\_\_

Relationship: Congruent or Supplementary

Equation: \_\_\_\_\_

x = \_\_\_\_\_ y = \_\_\_\_\_

37.

Parallelogram Rule: \_\_\_\_\_

Relationship: Congruent or Supplementary

Equation: \_\_\_\_\_

x = \_\_\_\_\_ y = \_\_\_\_\_

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

38. Find the slope of each segment to determine if the quadrilateral is a parallelogram.

A(-1, 3), B(4, 3), C(2, -1), D(-3, -1)

Slope of  $\overline{AB}$  = \_\_\_\_\_ Slope of  $\overline{CD}$  = \_\_\_\_\_

Slope of  $\overline{BC}$  = \_\_\_\_\_ Slope of  $\overline{AD}$  = \_\_\_\_\_

a. Which segments have the SAME SLOPE? \_\_\_\_\_ and \_\_\_\_\_

b. Lines that are PARALLEL have the same slope. So, which segments are parallel? \_\_\_\_\_ and \_\_\_\_\_

c. Why is Quadrilateral ABCD a parallelogram?

Feb 26-2:42 PM

March 6, 2019, Wednesday

Find the measurement indicated in each parallelogram.

1)

2)

3)

4)

Solve for x. Each figure is a parallelogram.

Feb 26-2:16 PM

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

### PROOFS USING DISTANCE AND SLOPE

Distance Formula  $d = \sqrt{(x_2-x_1)^2 + (y_2-y_1)^2} = \sqrt{(Ax)^2 + (Ay)^2}$  Slope Formula  $m = \frac{y_2-y_1}{x_2-x_1} = \frac{\Delta y}{\Delta x}$

The diagonals of a parallelogram bisect each other. For #1-2, prove that ABCD is a parallelogram for each case by showing that AE is congruent to EC and BE is congruent to ED.

① 
$$\begin{aligned} AE &= \sqrt{(2-1)^2 + (2-3)^2} = \sqrt{1+1} = \sqrt{2} \\ EC &= \sqrt{(3-5)^2 + (2-3)^2} = \sqrt{4+1} = \sqrt{5} \\ BE &= \sqrt{(3-3)^2 + (2-1)^2} = \sqrt{0+1} = 1 \\ ED &= \sqrt{(5-3)^2 + (2-3)^2} = \sqrt{4+1} = \sqrt{5} \end{aligned}$$

② 
$$\begin{aligned} AE &= \sqrt{(2-1)^2 + (2-3)^2} = \sqrt{1+1} = \sqrt{2} \\ EC &= \sqrt{(3-5)^2 + (2-3)^2} = \sqrt{4+1} = \sqrt{5} \\ BE &= \sqrt{(3-3)^2 + (2-1)^2} = \sqrt{0+1} = 1 \\ ED &= \sqrt{(5-3)^2 + (2-3)^2} = \sqrt{4+1} = \sqrt{5} \end{aligned}$$

The diagonals of a rectangle are congruent. For #3-5, prove that ABCD is a rectangle for each case by showing that diagonals AC and BD are congruent.

③ 
$$\begin{aligned} AC &= \sqrt{(3-1)^2 + (3-5)^2} = \sqrt{4+4} = \sqrt{8} \\ BD &= \sqrt{(3-1)^2 + (3-5)^2} = \sqrt{4+4} = \sqrt{8} \end{aligned}$$

④ 
$$\begin{aligned} AC &= \sqrt{(3-1)^2 + (3-5)^2} = \sqrt{4+4} = \sqrt{8} \\ BD &= \sqrt{(3-1)^2 + (3-5)^2} = \sqrt{4+4} = \sqrt{8} \end{aligned}$$

⑤ 
$$\begin{aligned} AC &= \sqrt{(3-1)^2 + (3-5)^2} = \sqrt{4+4} = \sqrt{8} \\ BD &= \sqrt{(3-1)^2 + (3-5)^2} = \sqrt{4+4} = \sqrt{8} \end{aligned}$$

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

### PROOFS USING DISTANCE AND SLOPE

Distance Formula  $d = \sqrt{(x_2-x_1)^2 + (y_2-y_1)^2} = \sqrt{(Ax)^2 + (Ay)^2}$  Slope Formula  $m = \frac{y_2-y_1}{x_2-x_1} = \frac{\Delta y}{\Delta x}$

The diagonals of a rhombus are perpendicular. For #6-8, prove that ABCD is a rhombus for each case by showing that the slopes of diagonals AC and BD are opposite reciprocals of each other.

⑥ 
$$m_{AC} = \frac{3-1}{5-1} = \frac{2}{4} = \frac{1}{2}$$
  
$$m_{BD} = \frac{1-3}{3-3} = \frac{-2}{0} = \text{undefined}$$

⑦ 
$$m_{AC} = \frac{3-1}{5-1} = \frac{2}{4} = \frac{1}{2}$$
  
$$m_{BD} = \frac{1-3}{3-3} = \frac{-2}{0} = \text{undefined}$$

⑧ 
$$m_{AC} = \frac{3-1}{5-1} = \frac{2}{4} = \frac{1}{2}$$
  
$$m_{BD} = \frac{1-3}{3-3} = \frac{-2}{0} = \text{undefined}$$

The diagonals of a square are both congruent and perpendicular. For #9-10, prove that ABCD is a square for each case by showing that diagonal AC is congruent to BD and that the slopes of AC and BD are opposite reciprocals. Show work.

⑨ 
$$AC = \sqrt{(3-1)^2 + (3-5)^2} = \sqrt{4+4} = \sqrt{8}$$
  
$$BD = \sqrt{(3-1)^2 + (3-5)^2} = \sqrt{4+4} = \sqrt{8}$$
  
$$m_{AC} = \frac{3-1}{3-1} = 1$$
  
$$m_{BD} = \frac{5-3}{1-3} = -1$$

⑩ 
$$AC = \sqrt{(3-1)^2 + (3-5)^2} = \sqrt{4+4} = \sqrt{8}$$
  
$$BD = \sqrt{(3-1)^2 + (3-5)^2} = \sqrt{4+4} = \sqrt{8}$$
  
$$m_{AC} = \frac{3-1}{3-1} = 1$$
  
$$m_{BD} = \frac{5-3}{1-3} = -1$$

Feb 26-2:43 PM

Geometry - Day 6, 4/17/2017 Area & Perimeter HW Name: \_\_\_\_\_

1. Plot triangle ABC with the following vertices: A(-1, 1), B(1, 2), C(3, 0)

a. Find the perimeter of the given triangle.

b. Find the area of the given triangle.

2. Plot triangle ABC with the following vertices: A(-2, 4), B(-2, -2), C(3, 4)

a. Find the perimeter of the given triangle.

b. Find the area of the given triangle.

3. Plot triangle ABC with the following vertices: A(1, -4), B(6, 2), C(6, -4)

a. Find the perimeter of the given triangle.

b. Find the area of the given triangle.

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4. Perimeter = \_\_\_\_\_  
Area = \_\_\_\_\_

5. Perimeter = \_\_\_\_\_  
Area = \_\_\_\_\_

6. Perimeter = \_\_\_\_\_  
Area = \_\_\_\_\_

7. Perimeter = \_\_\_\_\_  
Area = \_\_\_\_\_

Feb 26-2:45 PM

March 7, 2019, Thursday

Plot the following figure. A(-2,3), B(-3,0), C(3, -2) D(4,1)

What is the figure?

What is the length of AB?

What is the midpoint of CD?

Feb 26-2:18 PM

Unit 5 Study Guide

1. Which information is needed to show that a parallelogram is a rectangle?  
A. The diagonals bisect each other.  
B. The diagonals are congruent.  
C. The diagonals are congruent and perpendicular.  
D. The diagonals bisect each other and are perpendicular.

2. Using A(1) from #1, which information is needed to prove a parallelogram?

3. Given the points P(2, -1) & Q(-9, -6), what are the coordinates of the points on the directed line segment PQ that partitions PQ into the ratio  $\frac{2}{3}$ ?  
A.  $(-\frac{19}{5}, -4)$   
B.  $(-\frac{12}{5}, -3)$   
C.  $(\frac{2}{5}, \frac{3}{5})$   
D.  $(-\frac{1}{5}, -\frac{1}{5})$

4. An equation of a line a is  $y = -\frac{1}{2}x - 2$ . See graph.  
  
What is the equation of the line that is perpendicular to line a shown on the graph and passes through point (-4, 0)?  
A.  $y = -\frac{1}{2}x + 2$   
B.  $y = -\frac{1}{2}x + 8$   
C.  $y = 2x - 2$   
D.  $y = 2x + 8$

5. Which point is on a circle with a center of (3, -9) and a radius of 3?  
A. (-6, 5)  
B. (-1, 5)  
C. (1, 4)  
D. (6, -5)

6. Parallelogram ABCD has vertices as shown.  
  
Write out the two sets, AC & BD, of the full distance formulas set equal to each other that would be used to prove that the diagonals of ABCD bisect each other? Then solve.

GOE GEOMETRY 1 | Page 4

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Use the information provided to write the standard form of a circle.

7. Center:  $(2\sqrt{3}, -5\sqrt{2})$ , Radius =  $\sqrt{13}$       8. Center:  $(-4, -14)$  and the point  $(6, 11)$  that lies on the circle.

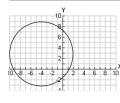
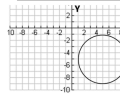
Use the information provided to write the general conic form of a circle.

9.  $(x + 10)^2 + (y - 7)^2 = 9$       10.  $(x - 14)^2 + (y + 14)^2 = 9$

Use the information provided to write the standard form of a circle. Then identify the center and radius length.

11.  $x^2 + y^2 - 20x + 2y + 76 = 0$       12.  $2x^2 + 2y^2 + 28x + 24y + 21 = 0$

Find the center and the radius length to write the standard form of each circle.

13.       14. 

CSDE GEOMETRY 2 | Page

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15. Prove or disprove that the points  $A(8, 0)$ ,  $B(0, -4)$  and  $C(-10, 0)$  are the vertices of an isosceles triangle inscribed in the circle centered at the origin  $Q$  and passing through the point  $P(3, \sqrt{91})$ .

On a coordinate plane, a local television station is located at the origin and has a broadcast range of 30 miles.

16) Write an equation that represents the region.      17) Can a person who lives 18 miles to the east and 35 miles north of the station watch this TV station?

You're a city planner, so you know that streets run north to south and avenues run east to west. Your friend Melissa lives at the corner of 3rd Street and 20th Avenue. Her sister Rebecca lives at the corner of 7th Street and 4th Avenue. If necessary, draw a graph to find the cross street that meets each criteria.

18. Is halfway between their homes.      19.  $\frac{1}{2}$  of the way from Melissa's to Rebecca's.

20. From Melissa's home to Rebecca's home by a ratio of 3:1.      21. From Melissa's home to Rebecca's home by a  $\frac{1}{2}$  ratio.

Determine if point  $A$  lies on a circle with center  $C$  and point  $P$  which is known to lie on the circle.

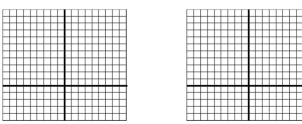
22.  $A(5, 0)$ ,  $C(0, 0)$ ,  $P(3, 4)$       23.  $A(0, 4)$ ,  $C(2, 1)$ ,  $P(5, 3)$

CSDE GEOMETRY 5 | Page

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For each figure using, prove the type of quadrilateral, using distance and, or slope. Keep diagonals in mind.

24.  $ABCD$ :  $A(1, 2)$ ,  $B(2, 5)$ ,  $C(4, 3)$ ,  $D(5, 6)$       25.  $EFGH$ :  $E(4, 1)$ ,  $F(-2, 3)$ ,  $G(2, -5)$ ,  $H(-4, -3)$



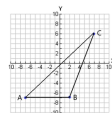
Write the equation of the lines below in slope-intercept form  $y = mx + b$ .

26. Through  $(-4, 5)$  and parallel to  $y = \frac{3}{2}x - 5$ .      27. Through  $(4, 4)$  and perpendicular to  $y = -2x - 2$

Find the area and perimeter of the following triangle. Simplified form required. Reminder: Draw altitude to find height!

28. Area = \_\_\_\_\_

29. Perimeter = \_\_\_\_\_



CSDE GEOMETRY 4 | Page

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19) When proving a rectangle is a parallelogram, which method is the best choice?  
 Show that the diagonals bisect by finding the midpoint of both diagonals.  
 Show that the diagonals have the same length using the distance formula or the Pythagorean Formula.

20) When proving the parent parallelogram, which method is the best choice?  
 Show that the diagonals bisect by finding the midpoint of both diagonals.  
 Show that the diagonals have the same length using the distance formula or the Pythagorean Formula.

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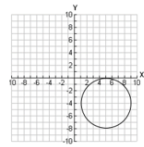
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March 8, 2019, Friday

1) Identify the slope of each line and then determine if the lines are parallel, perpendicular or neither.  
 $y = -\frac{3}{2}x - 10$  and  $-2x + 3y = 5$

2) Find the midpoint of line segment  $\overline{AB}$ .  
 $A(4, -3)$  and  $B(-11, 8)$ .

3) Using the diagram of the circle shown below, find the center, radius and standard form.



...test!

Feb 26-2:35 PM