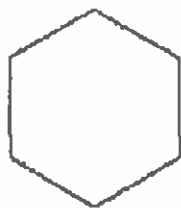**Geometry Q8A (8.1-8.3)**

1. The sum of the measures of the interior angles of a convex quadrilateral is _____.
   a. 180°
   b. 270°
   c. 360°
   d. 540°

2. The measure of <u>each</u> interior angle of a regular hexagon is _____.

   a. 30°
   b. 120°
   c. 15°
   d. 60°

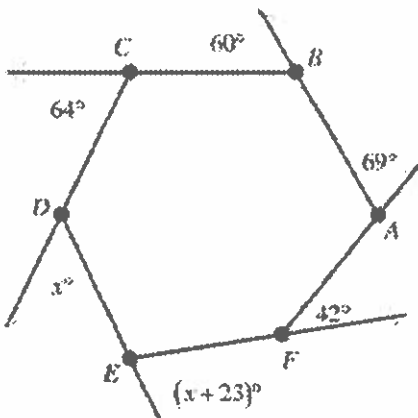3. The measure of <u>each</u> exterior angle of a regular octagon is _____.

   a. 22.5°
   b. 67.5°
   c. 45°
   d. 135°

Find the value of x. (The figure may not be drawn to scale.)

4.

a. 74
b. 108
c. 49
d. 51

5. Find the measure of <u>each</u> exterior angle of a regular polygon with 16 sides.
   a. 11.25°
   b. 360°
   c. 22.5°
   d. 157.5°

6. Find the measure of <u>one of the</u> exterior angles of a regular polygon with nine sides.
   a. 140°
   b. 40°
   c. 160°
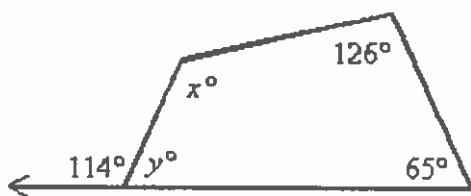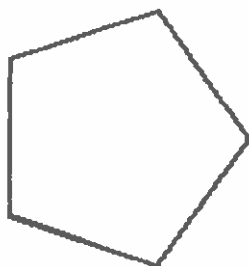   d. 20°

7. Find the measure of the missing angle.

8. Find x and y.

9. Find the sum of the measures of the interior angles in the figure.

10. A regular pentagon has five congruent interior angles. What is the measure of each angle?

11. What is the measure of each interior angle in a regular octagon?

12. Find the measure of an interior angle and an exterior angle of a regular polygon with 20 sides.

13. What is the measure of each exterior angle in a regular pentagon?

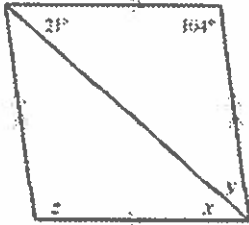14. For parallelogram $PQLM$ below, if $m\angle PML = 83°$, then $m\angle PQL =$ _____ .
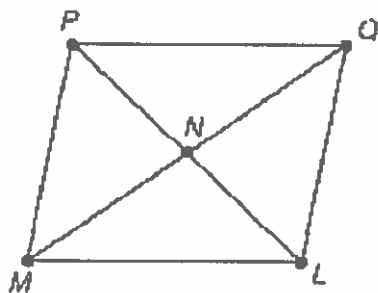
a. $m\angle PQM$
b. $83°$
c. $97°$
d. $m\angle QLM$
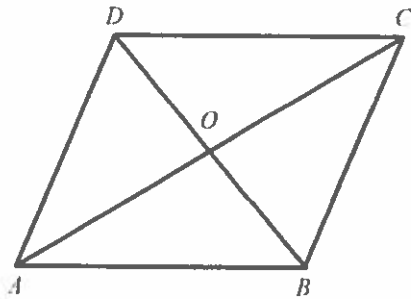
15. Consecutive angles in a parallelogram are always _____.
    a. congruent angles
    b. complementary angles
    c. supplementary angles
    d. vertical angles

16. Find the value of the variables in the parallelogram.
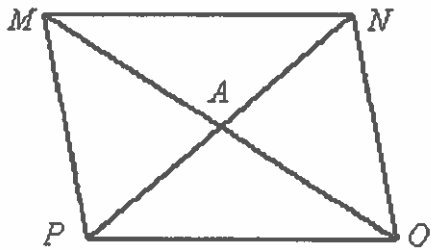

17. Complete the statement for parallelogram *ABCD*. Then state a definition or theorem as the reason.
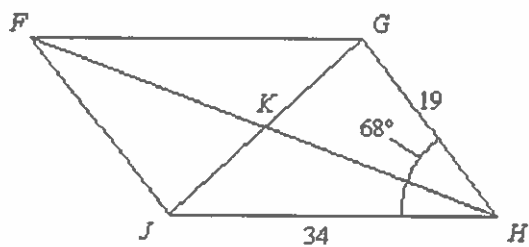 $\overline{AD} \cong$ _____

18. Find *AM* in the parallelogram if *PN* = 10 and *MO* = 19.

19. Use the figure below.

Given: *FGHJ* is a parallelogram, $m\angle JHG = 68°$, *JH* = 34, *GH* = 19
a. Find $m\angle FJH$.
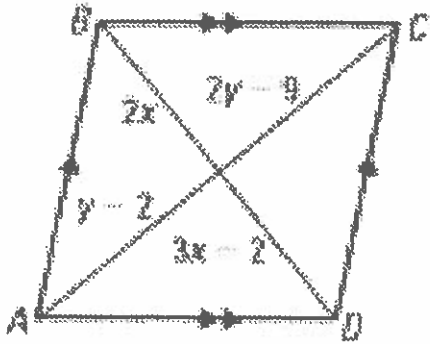
b. Find *JF*.

c. Find $m\angle GFJ$.

d. Find *FG*.

(next 2 problems) Use the diagram to find the values of x and y. Then find the given length.

20. *AC*

21. *BD*

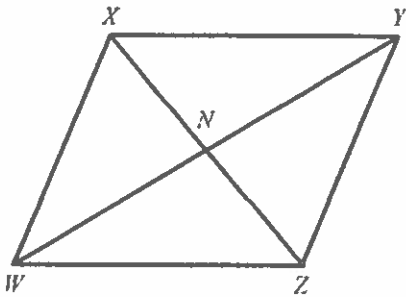22. (2, 3) and (3, 1) are opposite vertices in a parallelogram. If (0, 0) is the third vertex, then the fourth vertex is
    _____.
    a. $(1, -1)$
    b. $\left(\frac{5}{2}, 2\right)$
    c. $(-1, 2)$
    d. $(5, 4)$

23. Given the following, determine whether quadrilateral *XYZW* must be a parallelogram. Justify your answer.
$\overline{XY} \cong \overline{WZ}$ and $\overline{XW} \cong \overline{YZ}$.

24. Draw a figure in the coordinate plane.
Given: Quadrilateral *ABCD* with *A*(−5, 0), *B*(4, −3), *C*(8, −1), *D*(−1, 2)
Show that *ABCD* is a parrallelogram.
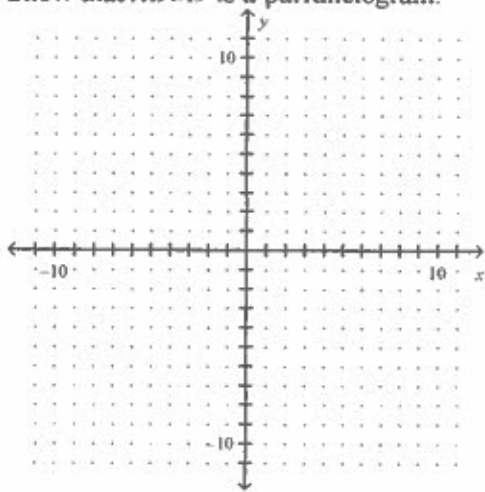
25. Show that *ABCD* below is a parallelogram.

26. (EXTRA CREDIT) Find the number of sides of a convex polygon if the measures of its interior angles have a sum of 2880°.

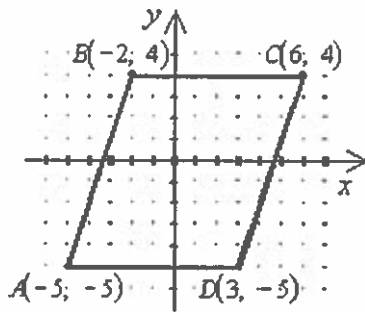**Geometry Q8A (8.1-8.3)**
Answer Section

1. C
2. B
3. C
4. D
5. C
6. B
7. 114°
8. $x = 103, y = 66$
9. 540°
10. 108°
11. 135°
12. interior angle: 162 degrees; exterior angle: 18 degrees
13. 72°
14. B
15. C
16. $x = 21°$, $y = 55°$, $z = 104°$
17. $\overline{BC}$, the opposite sides of a parallelogram are congruent
18. 9.5
19. a. 112°
    b. 19
    c. 68°
    d. 34
20. 10
21. 8
22. D
23. Yes. If both pairs of opposite sides of a quadrilateral are congruent, then the quadrilateral is a parallelogram.

24.
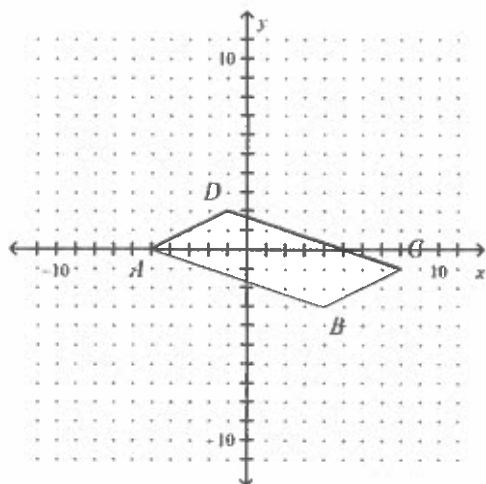
|	
1. Quadrilateral $ABCD$ with $A(-5, 0)$, $B(4, -3)$, $C(8, -1)$, $D(-1, 2)$	1. Given
2. slope of $\overline{AB} = \dfrac{-3-0}{4-(-5)} = \dfrac{-3}{9}$ slope of $\overline{BC} = \dfrac{-1-(-3)}{8-4} = \dfrac{2}{4}$ slope of $\overline{CD} = \dfrac{2-(-1)}{-1-8} = \dfrac{3}{-9}$ slope of $\overline{AD} = \dfrac{0-2}{-5-(-1)} = \dfrac{-2}{-4} = \dfrac{1}{2}$	2. Definition of slope
3. $\overline{AB} \parallel \overline{DC}$, $\overline{AD} \parallel \overline{BC}$	3. Lines with = slopes are $\parallel$.
4. $ABCD$ is a parallelogram.	4. Definition of a parallelogram

25. Since $AB = CD = 3\sqrt{10}$ and $BC = AD = 8$, $ABCD$ is a parallelogram.

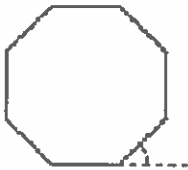26. 18

Geometry Q8A (8.1-8.3)

1. The sum of the measures of the interior angles of a convex quadrilateral is _____.
    a.   180°
    b.   540°
    c.   360°
    d.   270°

2. The measure of <u>each</u> interior angle of a regular hexagon is _____.
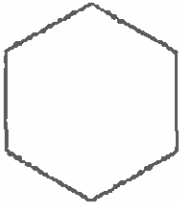
    a.   120°
    b.   15°
    c.   60°
    d.   30°

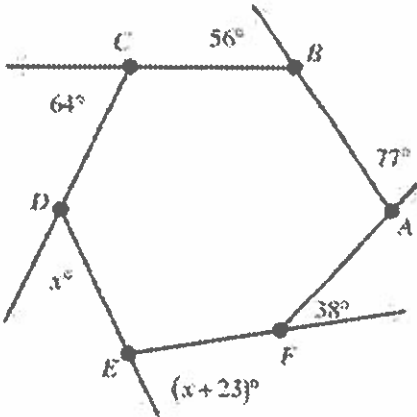3. The measure of <u>each</u> exterior angle of a regular octagon is _____.

    a.   135°
    b.   67.5°
    c.   22.5°
    d.   45°

Find the value of *x*. (The figure may not be drawn to scale.)

4.

- a. 74
- b. 51
- c. 108
- d. 49

5. Find the measure of <u>each</u> exterior angle of a regular polygon with 45 sides.
    - a. 360°
    - b. 4°
    - c. 8°
    - d. 172°

6. Find the measure of <u>one of the</u> exterior angles of a regular polygon with six sides.
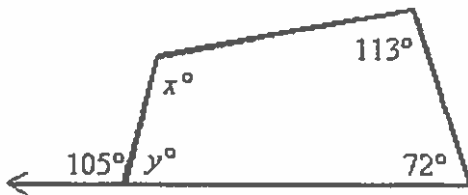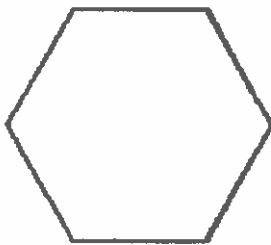   - a. 30°
    - b. 120°
    - c. 150°
    - d. 60°

7. Find the measure of the missing angle.

8. Find x and y.


9. Find the sum of the measures of the interior angles in the figure.

10. A regular pentagon has five congruent interior angles. What is the measure of <u>each</u> angle?

11. What is the measure of <u>each</u> interior angle in a regular octagon?

12. Find the measure of <u>an</u> interior angle and <u>an</u> exterior angle of a regular polygon with 5 sides.

13. What is the measure of <u>each</u> exterior angle in a regular pentagon?

14. For parallelogram *PQLM* below, if $m\angle PML = 83°$, then $m\angle PQL =$ _____ .
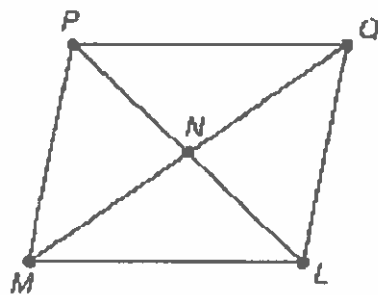
     a. $m\angle PQM$
     b.   83°
     c.   97°
     d. $m\angle QLM$
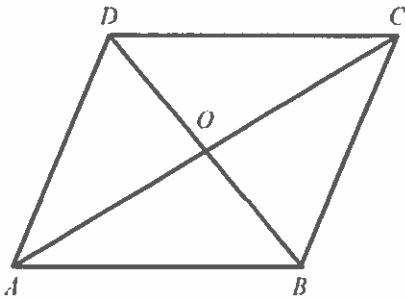
15. Consecutive angles in a parallelogram are always _____.
    a. complementary angles
    b. supplementary angles
    c. vertical angles
    d. congruent angles

16. Find the value of the variables in the parallelogram.
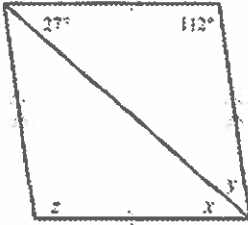
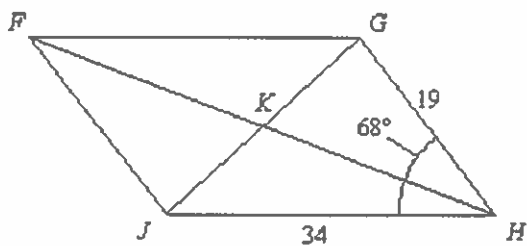
17. Complete the statement for parallelogram $ABCD$. Then state a definition or theorem as the reason.
    $\angle ADC$ is supplementary to _____

18. Find *AM* in the parallelogram if *PN* = 10 and *MO* = 19.
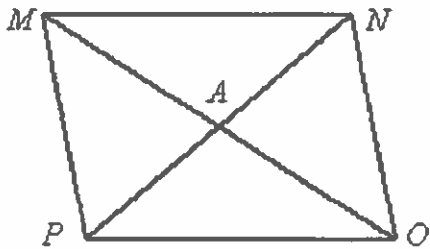
19. Use the figure below.

Given: *FGHJ* is a parallelogram, $m\angle JHG = 68°$, *JH* = 34, *GH* = 19
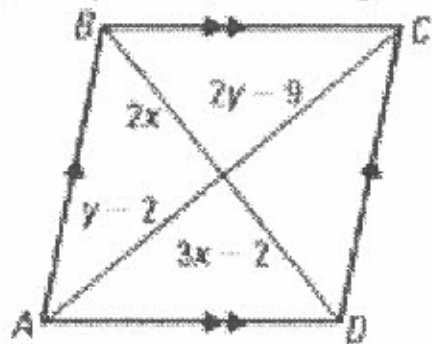a. Find $m\angle FJH$.

b. Find *JF*.

c. Find $m\angle GFJ$.

d. Find *FG*.

(next 2 problems) Use the diagram to find the values of x and y. Then find the given length.

20. *AC*

21. *BD*

22. (2, 3) and (3, 1) are opposite vertices in a parallelogram. If (0, 0) is the third vertex, then the fourth vertex is _____.

a. $\left(\frac{5}{2}, 2\right)$

b. $(1, -1)$

c. $(-1, 2)$

d. $(5, 4)$

23. Given the following, determine whether quadrilateral *XYZW* must be a parallelogram. Justify your answer. $\overline{XW} \parallel \overline{YZ}$ and $\overline{XY} \parallel \overline{WZ}$.
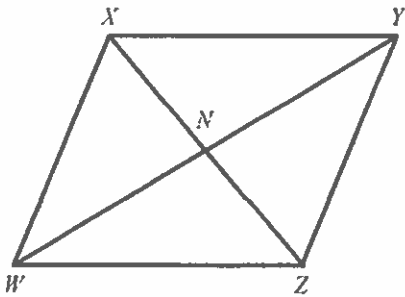
24. Draw a figure in the coordinate plane.
    Given: Quadrilateral *ABCD* with *A*(−5, 0), *B*(4, 1), *C*(8, 3), *D*(−1, 2)
    Show that *ABCD* is a parrallelogram.
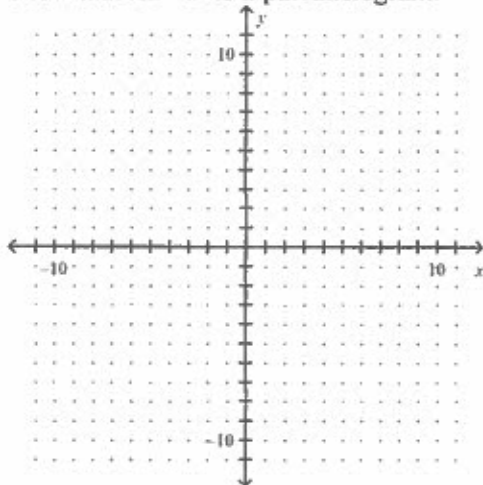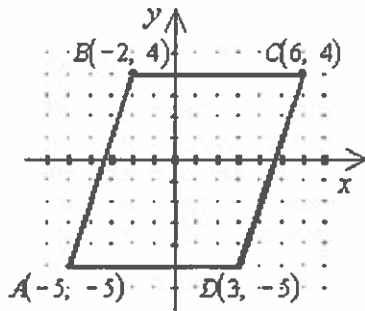
25. Show that *ABCD* below is a parallelogram.

26. (EXTRA CREDIT) Find the number of sides of a convex polygon if the measures of its interior angles have a sum of 21,240°.

Geometry Q8A (8.1-8.3)
Answer Section

1. C
2. A
3. D
4. B
5. C
6. D
7. 62°
8. $x = 100, y = 75$
9. 720°
10. 108°
11. 135°
12. interior angle: 108 degrees; exterior angle: 72 degrees
13. 72°
14. B
15. B
16. $x = 27°$, $y = 41°$, $z = 112°$
17. $\angle DAB$ or $\angle DCB$, the consecutive angles of a parallelogram are supplementary
18. 9.5
19. a. 112°
    b. 19
    c. 68°
    d. 34
20. 10
21. 8
22. D
23. Yes. If both pairs of opposite sides of a quadrilateral are parallel, then the quadrilateral is a parallelogram.

24.
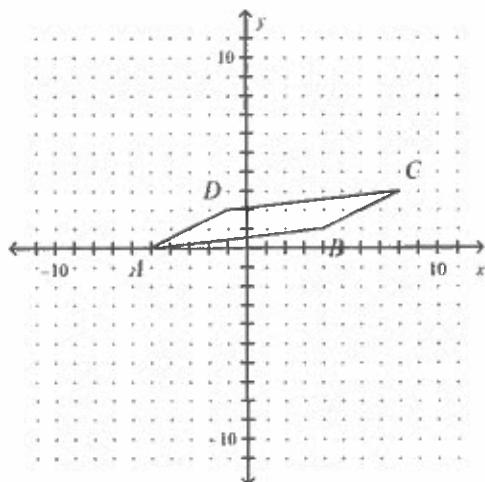
1. Quadrilateral $ABCD$ with $A(-5, 0)$, $B(4, 1)$, $C(8, 3)$, $D(-1, 2)$	1. Given
2. slope of $\overline{AB} = \dfrac{1-0}{4-(-5)} = \dfrac{1}{9}$ slope of $\overline{BC} = \dfrac{3-(1)}{8-4} = \dfrac{2}{4}$ slope of $\overline{CD} = \dfrac{2-(3)}{-1-8} = \dfrac{-1}{-9}$ slope of $\overline{AD} = \dfrac{0-2}{-5-(-1)} = \dfrac{-2}{-4} = \dfrac{1}{2}$	2. Definition of slope
3. $\overline{AB} \parallel \overline{DC}$, $\overline{AD} \parallel \overline{BC}$	3. Lines with $=$ slopes are $\parallel$.
4. $ABCD$ is a parallelogram	4. Definition of a parallelogram

25. Since $AB = CD = 3\sqrt{10}$ and $BC = AD = 8$, $ABCD$ is a parallelogram.

26. 120

SHILOH CHRISTIAN SCHOOL

May 4th – May 8th

Monday, May 4th

Beef Ravioli
Corn on the Cob
Fruit Cocktail
Wheat Bread
Carnival Cookie
Milk

Tuesday, May 5th

Steak Fingers
Mashed Potatoes & Gravy
Mandarin Oranges
Wheat Roll
Elf Grahams
Milk

Wednesday, May 6th

Pizza
Tossed Salad
Diced Pears
Fruit by the Foot
Milk

Thursday, May 7th

Burrito
Mexican Rice
Corn
Diced Peaches
Snickerdoodle
Milk

Friday, May 8th

Hot Dogs
Cool Ranch Doritos
Baby Carrots
Orange Wedges
Chocolate Ice Cream
Milk

Ala Carte

Monday	Popcorn Chicken
Tuesday	Bosco Cheese Sticks
Wednesday	PaPa Johns
Thursday	Mini Tacos
Friday	Mini Burgers

SHILOH CHRISTIAN SCHOOL

May 4th – May 8th

Monday, May 4th

Beef Ravioli
Corn on the Cob
Fruit Cocktail
Wheat Bread
Carnival Cookie
Milk

Tuesday, May 5th

Steak Fingers
Mashed Potatoes & Gravy
Mandarin Oranges
Wheat Roll
Elf Grahams
Milk

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Tossed Salad
Diced Pears
Fruit by the Foot
Milk

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Mexican Rice
Corn
Diced Peaches
Snickerdoodle
Milk

Friday, May 8th

Hot Dogs
Cool Ranch Doritos
Baby Carrots
Orange Wedges
Chocolate Ice Cream
Milk

Ala Carte

Monday	Popcorn Chicken
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