

August 13, 2018

$(x,y) \rightarrow (-y,x)$

rotation 90° counterclockwise about the origin

Where are the points

R(4,5) R'(-5,4)
 S(2,2) S'(-2,2)
 L(5,0) L'(-6,5)

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Even, Odd, or Neither

$f(x) = x^2 + 6$ $f(-x) = f(x)$ Even Graph is symmetric with respect to the y-axis	$f(x) = x^3 - 8x$ $f(-x) = -f(x)$ Odd Graph has origin symmetry	$f(x) = x^4 + 3x^2$ $f(-x) \neq f(x)$ Neither Graph is not symmetric with respect to the y-axis and does not have origin symmetry
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Look at the exponents!

Compare

$f(x) = 4x^2 - 7x^{40}$; **Even Function**

$g(x) = 5x^2 - 2x^1$; **Odd Function**

$h(x) = 7x^2 + 5x^1 + 3x^0$; **Neither**

even odd even

Even	Odd	Neither
Graph is symmetric with respect to the y-axis	Graph has origin symmetry (if we rotate half the graph about the origin, it fits perfectly over the other half)	Graph is not symmetric with respect to the y-axis and does not have origin symmetry

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Determine whether the following functions are even, odd, or neither.

1. $f(x) = 4x^3 - 3x^5$; NEITHER 	2. $f(x) = x + 1$; EVEN 	3. $f(x) = -x^2 - 4$; EVEN
4. $f(x) = \frac{1}{3}x^3$; odd 	5. $f(x) = 7x^1$; odd 	6. $f(x) = \sqrt{x+5}$; NEITHER

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7. $f(x) = 3x^2$; even	8. $f(x) = x^3 - 2x^0$; NEITHER	9. $f(x) = 3x^1 + 4x^0$; NEITHER
10. $f(x) = x^2 - 5x^0$; even	11. $f(x) = 10x^4 + 5x^3$; NEITHER	12. $f(x) = 2(x+1)^3$; NEITHER

$2(x+1)^3$
 $2(x+1)(x+1)(x+1)$
 $(2x+2)(x+1)(x+1)$
 $(2x^2 + 2x + 2x + 2)(x+1)$
 $(2x^2 + 4x + 2)(x+1)$
 $2x^3 + 2x^2 + 4x^2 + 4x + 2x + 2$
 $2x^3 + 4x^2 + 8x + 2$

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E

key: 1) N 2) E 3) E 4) O 5) O 6) N 7) E 8) N 9) N

10) E 11) N 12) N

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Geometry Unit 1 Study Guide Name _____

Show all work

1. (G.CO.5) Which clockwise rotation about point P maps C to B?
 90°

2. (G.CO.2) Which describes how $\triangle ABC$ could be rotated to form its image $\triangle A'B'C'$?
 90° counterclockwise

3. (G.CO.4) When the point $(-3, 2)$ is reflected across the y -axis, what is the resulting image?
 $(-3, -2)$

4. (G.CO.4) What is the image of $(-3, 2)$ when it is translated by $(x-1, y-4)$ and then reflected about the y -axis?
 $(4, 2)$ $(-3-1, 2-4) = (-4, -2)$

5. (G.CO.4) Trapezoid $P'Q'R'S'$ is the image of trapezoid $PQRS$. Explain the transformation that has taken place.
 R_y axis

6. (G.CO.5) Which of the following is not a rotation of the figure at the right?
 A. B. C. D.

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7. (G.CO.5) What type of transformation is shown in the diagram below?
 $R_{y=x}$

8. (G.CO.4) Which of the following capital letters does not have a line of symmetry?
 A. Z B. C C. H D. I

9. (G.CO.4) Given the translation $(x, y) \rightarrow (x, y+4)$. What is the preimage of $(3, 5)$?
 $x=3$ $y-4=5$
 $y=-1$

10. (G.CO.2) The translation "5 units to the left and 3 units down" in coordinate notation would be?
 $(x, y) \rightarrow (x-5, y-3)$

11. (G.CO.3) Use the figure at right to determine which segment represents a 90° counterclockwise rotation of \overline{AB} about P.
 GH

12. (G.CO.4) If $B(-2, -1)$ is reflected about the x -axis, then the coordinates of B' are?
 $(-2, 1)$

13. (G.CO.4) Give an example of 2 figures that are not an isometry?
 $\square \square$

4. (G.CO.2) What is the line of reflection for a transformation that maps $(4, -3)$ to $(-3, 4)$?
 $y=x$

5. (G.CO.3) Which description of a rotation would map the figure below onto itself?
 $180^\circ, 360^\circ$

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16. (G.CO.5) The coordinates of $\triangle LMN$ are $L(-6, 8)$, $M(-4, 2)$, $N(-10, 4)$ and is translated $(x, y) \rightarrow (x-6, y+4)$. What are the coordinates of the new figure?
 $L'(-12, 12)$ $M'(-10, 6)$ $N'(-16, 8)$

17. (G.CO.5) Reflect $\triangle LMN$ using the rule $(x, y) \rightarrow (x, -y)$.
 $M(-4, 2) \rightarrow M'(-4, -2)$
 $N(-9, 3) \rightarrow N'(-9, -3)$
 $L(-6, 8) \rightarrow L'(-6, -8)$
 What line did you reflect $\triangle ABC$ across?
 x -axis

18. (G.CO.5) In the coordinate plane below, rotate $\triangle ABC$ 180° degrees about the origin. What are the coordinates of the image? $(x, y) \rightarrow (-x, -y)$
 $A' 5, -2 \leftarrow A(-5, -2)$
 $B' -4, -2 \leftarrow B(-4, 2)$
 $C' 2, 0 \leftarrow C(-2, 0)$

19. Write an example of an even, odd, and neither function.
 a. NEITHER: $2x^4 + |x|$
 b. EVEN: $|x|^4$
 c. ODD: $|x|^3$

20. Determine if the given functions are even, odd, or neither.
 a. $f(x) = 4x^2 + 6x^3$ even
 b. $f(x) = 9x^4$ odd

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If a point is translated by the rule $(x - 4, y + 1)$ and the image is $(0, -2)$, what is the location of the pre-image?
 $x - 4 = 0$ $y + 1 = -2$
 $+4$ $+4$
 $x = 4$ $y = -3$
 $(4, -3)$

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21. (G.CO.5) The vertices of $\triangle ABC$ are $A(1, 1)$, $B(3, 1)$, and $C(3, 4)$. Reflect $\triangle ABC$ across the y -axis, then reflect the resulting figure across the x -axis. Label the reflection as $\triangle A''B''C''$. Label the rotation as R .
 $(x, y) \rightarrow (-x, -y)$
 $A'(-1, -1)$ $A''(1, 1)$
 $B'(-3, -1)$ $B''(3, 1)$
 $C'(-3, -4)$ $C''(3, 4)$

22. (G.CO.5) List the sequence of transformations necessary to map $\triangle ABC$ to $\triangle A''B''C''$.
 Transformation 1: R_x axis
 Transformation 2: R_{90°
 Transformation 3: $T_{2, 9}$

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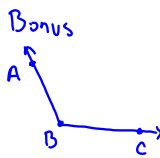
Unit 1 Test!

You may skip one problem from each page...
 please write the word 'skip' on the problem,
 otherwise I will have assumed you left the problem
 unanswered and count it wrong.

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quiz review

Bonus



Classification (Circle One) **Obtuse**

Angle Name 1 $\angle ABC$
 2 $\angle CBA$
 3 $\angle B$

Vertex

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-Label the angle using the geometric vocabulary (ray) and vertex

Is this a right, acute or obtuse angle? Why? The measure is less than 90°.

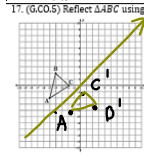
-If you are told this is $\angle KLM$, place K, L, and M properly on the diagram.

L ← has to be the vertex!

Highly missed problems from the unit test...

7. (G.CO.5) What type of transformation is shown in the diagram below?
 A. translation B. translation C. reflection D. dilation

11. (G.CO.5) Reflect $\triangle ABC$ using the rule $(x, y) \rightarrow (y, x)$. Make sure that you draw the line of reflection.



$X, Y \rightarrow Y, X$
 $A(-5, -2) \rightarrow A'(-2, -5)$
 $B(-4, 2) \rightarrow B'(2, -4)$
 $C(-2, 0) \rightarrow C'(0, -2)$

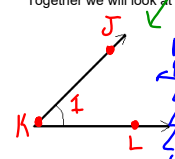
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Unit 2!

In your textbook, using pages 18-20 define the words:
 angle
 vertex
 sides
 degrees
 angle bisector

In your textbook, page 19 copy the 'Classifying Angles' in purple

Together we will look at naming angles, draw the below angle



NOT ANGLE NAMES
 $\angle K LJ$
 $\angle J L K$
 $\angle K J L$
 $\angle K L J$

NAMES FOR ANGLE
 $\angle J K L$
 $\angle L K J$
 $\angle K$
 $\angle J$

WITH 3 LETTER THE VERTEX LETTER MUST BE IN THE MIDDLE.
 WITH 1 LETTER, IT MUST BE THE VERTEX LETTER
 WITH 2 NUMBER.

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p20 copy the 'angle addition postulate'

Old: Segment addition postulate
 $\frac{A}{a} + \frac{B}{b} = \frac{C}{c}$
 New: Angle addition postulate
 $\angle PQR + \angle RST = \angle PST$

Let's check what we are learning:
 p22 #4-7 & p23 #17-18
 4) $\angle XWZ$
 5) $\angle TUV$
 6) $\angle ZWX$
 7) $\angle YZ$
 12) Acute

4.1 Angles Formed by Intersecting Lines

Essential Question: Can you find the measures of angles formed by intersecting lines?

Explore 1: Finding Angle Pairs Formed by Intersecting Lines

Using a straightedge, draw a pair of intersecting lines like the open scissors below. Label the angles as 1, 2, 3, and 4.

Use a protractor to find each measure.

Angle	Measure
$m\angle 1$	45
$m\angle 2$	45
$m\angle 3$	45
$m\angle 4$	45
$m\angle 1 + m\angle 2$	90
$m\angle 2 + m\angle 3$	90
$m\angle 3 + m\angle 4$	90
$m\angle 4 + m\angle 1$	90

Vertical angles are equal to 180°

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p23 #19 use your compass to measure $\angle A$ and $\angle B$

$m\angle A = 40^\circ$ or 45°
 $m\angle B = 30^\circ$

Classify & name the following angle

$\angle PQR$
 $\angle RQS$
 $\angle Q$

Obtuse

115

Find your new seat too!

Aug 15-11:40 AM

You just learned 'vertical angles' & 'linear pairs'!

p 146 copy the vertical angle theorem


p 148 copy the definition of:
 complementary angles
 supplementary angles

Let's practice our learning p 150 #1

Evaluate: Work and Practice

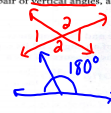
Use this diagram and information for Exercises 1-4.

Given: $m\angle AFB = m\angle EFD = 50^\circ$
 Points B, F, D and points E, F, C are collinear.



1. State whether each pair of angles is a pair of vertical angles, a linear pair of angles, or neither.
 A. $\angle BFC$ and $\angle DFE = VA$
 B. $\angle BFA$ and $\angle DFE = \text{NEITHER}$
 C. $\angle BFC$ and $\angle CED$
 D. $\angle AFE$ and $\angle AFC$
 E. $\angle BFE$ and $\angle CFD$
 F. $\angle AFE$ and $\angle BFC = \text{NEITHER}$

2. Find $m\angle AFE$.
 3. Find $m\angle DFC$.
 4. Find $m\angle BFC$.



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Draw a vertical angle
 Draw a linear pair
 Draw a straight angle
 Draw a right angle

Draw the following obtuse angle \angle IDK

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p150 #6, 7, 8, 9 - try, then we will check!

Aug 15-8:13 AM

Define in your textbook p 39-41
 conjecture
 inductive reasoning
 deductive reasoning,
 theorem
 counterexample

p41 #6 copy and we will fill in together


Aug 16-7:44 AM


p41 copy linear pair theorem


p 46 21-26


Aug 16-7:46 AM


Classify each angle as acute, obtuse, right, or straight.


1) 

2) 

3) 


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
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
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
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Name each angle in four ways.

7) 

8) 

9) 

10) 

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Use the angle addition postulate to find the missing measurements.

11) $m\angle HUI = 152^\circ$ and $m\angle HIF = 60^\circ$.
Find $m\angle FIJ$.

12) $m\angle QRS = 135^\circ$ and $m\angle QRH = 74^\circ$.
Find $m\angle HRS$.

-1-

13) Find $m\angle CDK$ if $m\angle KDE = 160^\circ$
and $m\angle CDE = 180^\circ$.

14) $m\angle JKL = 107^\circ$ and $m\angle MKL = 85^\circ$.
Find $m\angle JKM$.

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15) $m\angle FGZ = 52^\circ$ and $m\angle ZGH = 94^\circ$.
Find $m\angle FGH$.

16) Find $m\angle JIH$ if $m\angle JIG = 70^\circ$
and $m\angle GIH = 52^\circ$.

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Name the relationship: complementary, linear pair, vertical, or adjacent.

17)

18)

19)

20)

21)

22)

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Using vertical pairs, find the measure of angle b.

23)

24)

25)

26)

27)

28)

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Using complementary angles, find the value of x.

29)

30)

-3-

31)

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Using linear pairs, find the measure of angle b.

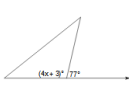
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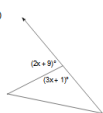
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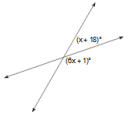
34)

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Find the value of x .

35) 

36) 

37) 

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