

August 13, 2018

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

rotation 90° counterclockwise about the origin

Where are the points

R(1,5) R'(-5,1)
 S(2,2) S'(-2,2)
 T(5,0) T'(-0,5)

Aug 13-7:39 AM

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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Compare

$f(x) = 4x^2 - 7x^0$; **Even Function**

$g(x) = 5x^2 - 2x^0$; **Odd Function**

$h(x) = 7x^2 + 5x^0 + 3x^0$; **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 |

Aug 13-8:03 AM

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

| | | |
|--|-------------------------------------|---|
| 1. $f(x) = 4x^3 - 3x^0$ Neither | 2. $f(x) = x + 1$ even | 3. $f(x) = -x^2 - 4x^0$ even |
| 4. $f(x) = \frac{1}{3}x^3$ odd | 5. $f(x) = 7x^7$ odd | 6. $f(x) = \sqrt{x+5}$ Neither |

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

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key: 1) N 2) N 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
Show all work

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

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

3. (G.CO.4) When the point $(-3, 2)$ is reflected across the x-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.
 $R_{y\text{-axis}}$

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

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

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.
 \overline{FG}

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?
same size
 $\square \square$

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 $L(-6, 8)$, $M(-4, 2)$, and $N(-10, 4)$ 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?
 $R_{x\text{-axis}}$

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

19. Write an example of an even, odd, and neither function.
a. NEITHER: **$3x^2 + 4x^5$**
b. EVEN: **$7x^4 + 3x^3$**
c. ODD: **$3x^0$**

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

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August 14, 2018

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?

$x - 4 = 0 \Rightarrow x = 4$
 $y + 1 = -2 \Rightarrow y = -3$
 $(4, -3)$

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21. (G.CO.5) The image of $\triangle ABC$ is $\triangle A''B''C''$. $\triangle A'B'C'$ is the image of $\triangle ABC$ after a 180° rotation about the origin. $\triangle A''B''C''$ is the image of $\triangle A'B'C'$ after a reflection across the y-axis.

$(x, y) \rightarrow (-x, -y)$
 $A'(-4, 1) \rightarrow A''(4, 1)$
 $B'(-1, -1) \rightarrow B''(1, -1)$
 $C'(-1, -4) \rightarrow C''(1, -4)$

22. (G.CO.5) List the sequence of transformations necessary to map $\triangle ABC$ to $\triangle A''B''C''$.
Transformation 1: **$R_{x\text{-axis}}$**
Transformation 2: **$R_{90^\circ \text{ CW}}$**
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.

Aug 13-7:51 AM

Quiz Review

b) Rotate 270° ccw

$(x, y) \rightarrow (y, -x)$
 $C (-7, 2) \rightarrow C' (2, 7)$
 $D (-3, 3) \rightarrow D' (3, 3)$
 $E (-7, 6) \rightarrow E' (6, 7)$

270° ccw

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August 15, 2018

-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.

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 show the line of reflection.

$(x, y) \rightarrow (y, x)$
 $A(-5, -2) \rightarrow A'(-2, -5)$
 $B(-4, 2) \rightarrow B'(2, -4)$
 $C(-2, 0) \rightarrow C'(0, -2)$

Aug 15-7:49 AM

Unit 2!

In your textbook, using pages 18-20 define the words:

angle
vertex
sides
degrees
angle bisector

We can't name this angle
 $\angle JKL$ $\angle J$ $\angle K$
 $\angle L$ $\angle BKL$ $\angle L$

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

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

$\angle JKL$ } Name angles with 3 letters - the vertex has to be in the middle.
 $\angle LKJ$
 $\angle K$ } Name the angle with 1 letter - it has to be the vertex letter.
 $\angle 1$ } Name an angle with one number.

Aug 15-8:12 AM

p20 copy the 'angle addition postulate'

Let's check what we are learning: p22 #4-7 & p23 #17-18

$AB + BC = AC$ Segment Addition Postulate
 $\angle PQS + \angle SQR = \angle PQR$ Angle Addition Postulate

4) $\angle W$
 5) $\angle R$
 17) Acute
 18) obtuse

4.1 Angles Formed by Intersecting Lines

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

Explore 1 Exploring Angle Pairs Formed by Intersecting Lines

Use two different colored pencils to draw a pair of intersecting lines like the open scissors. Label the angles formed as $\angle 1, \angle 2, \angle 3,$ and $\angle 4$.

Use a protractor to find each measure:

| Angle | Measure of angle |
|-------------------------|------------------|
| $m\angle 1$ | 141 |
| $m\angle 2$ | 39 |
| $m\angle 3$ | 141 |
| $m\angle 4$ | 39 |
| $m\angle 1 + m\angle 2$ | 180 |
| $m\angle 2 + m\angle 3$ | 180 |
| $m\angle 3 + m\angle 4$ | 180 |
| $m\angle 4 + m\angle 1$ | 180 |

vertical angle have the same measure
vertical angle
Linear Pairs Measure = 180°

Aug 15-8:12 AM

August 16, 2018

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

$m\angle A = 45^\circ$
 $m\angle B = 32^\circ$

right, acute, obtuse, straight

Classify & name the following angle

$\angle ABC, \angle B$

obtuse
 $\angle RQP$
 $\angle PQR$
 $\angle Q$

Aug 16-11:44 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: Homework 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 $\angle DFE$ \rightarrow vertical angle
 B. $\angle BFA$ and $\angle DFE$ \rightarrow neither
 C. $\angle BFC$ and $\angle CFD$ \rightarrow linear pair
 D. $\angle AFE$ and $\angle AFC$ \rightarrow vertical angle
 E. $\angle BFE$ and $\angle CFD$ \rightarrow vertical angle
 F. $\angle AFE$ and $\angle BFC$ \rightarrow neither

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

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
August 17, 2018


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


Draw the following obtuse angle $\angle DK$


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


1) 

2) 

3) 


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
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
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
Aug 13-7:52 AM

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) $m\angle HJ = 152^\circ$ and $m\angle HIF = 60^\circ$.
Find $m\angle FL$.

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

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 $m\angle JKM$.

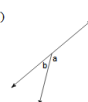
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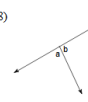
15) $m\angle FGZ = 52^\circ$ and $m\angle ZGH = 94^\circ$.
Find $m\angle FGH$.

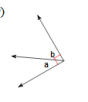
16) Find $m\angle JIH$ if $m\angle JIG = 70^\circ$
and $m\angle GH = 52^\circ$.

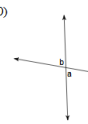
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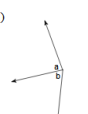
Name the relationship: complementary, linear pair, vertical, or adjacent.


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18) 

19) 

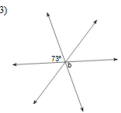
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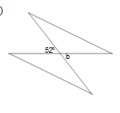
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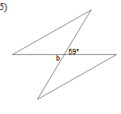
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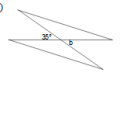
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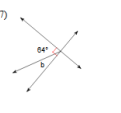
Using vertical pairs, find the measure of angle b.

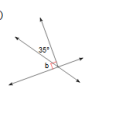
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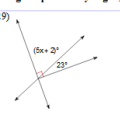
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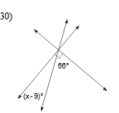
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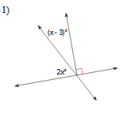
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Using complementary angles, find the value of x.

29) 

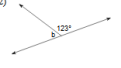
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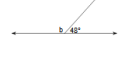
31) 

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Using linear pairs, find the measure of angle b.


32) 

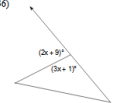
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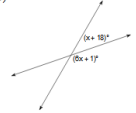
34) 

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Find the value of x.

35) 

36) 

37) 

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