Geometry

1.1 Points, Lines, and Planes

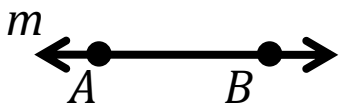
Undefined Terms

Point A •

- What is it like?
  - _____
  - _____
- How is it named?
  - _____
  - _____

Line

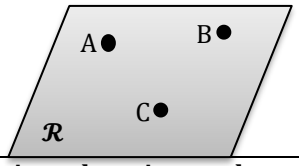
- What is it like?
  - _____
  - _____
  - _____
  - _____
- How is it named?
  - _____
  - _____
  - _____



Through any _____ points there is exactly one _____.

Plane

- What is it like?
  - _____
  - _____
  - _____
  - _____
- How is it named?
  - _____
  - _____



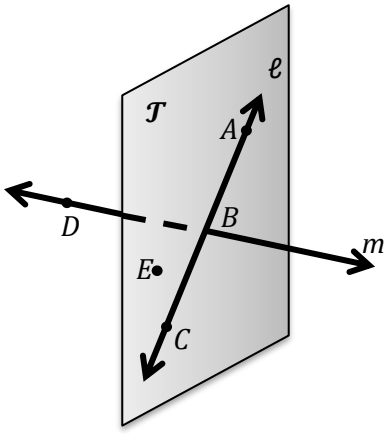
Through any _____ _____ points, there is exactly one _____.

Give two other names for $\overleftrightarrow{BD}$

Give another name for plane $\mathcal{T}$

Name three collinear points

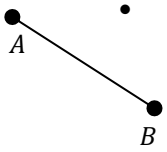
Name four coplanar points



Parts of a Line

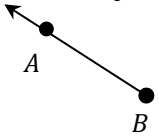
Segment

- What is it like?
  - _____ _____
  - _____
- How is it named?
  - _____
  - _____
  - _____

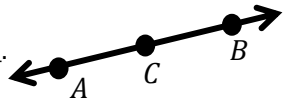


Ray

- What is it like?
  - _____ _____
  - _____ _____
- How is it named?
  - _____ _____
  - _____



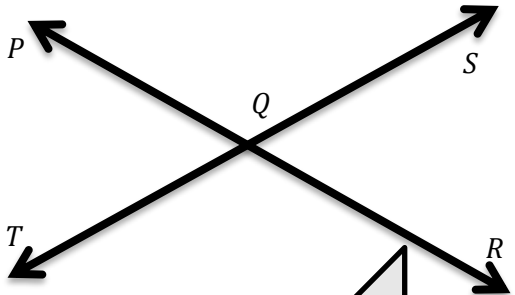
If two rays have the same endpoint and go in opposite directions, they are called _____.



Give another name for $\overline{PR}$

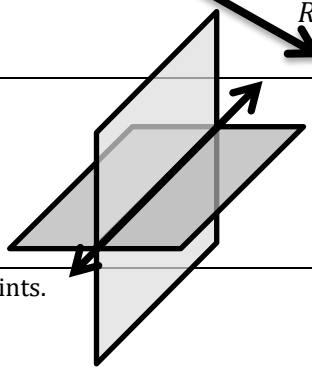
Name all rays with endpoint Q

Which of these rays are opposite rays?



The intersection of two lines is a _____.

The intersection of two planes is a _____.



Sketch a plane and two intersecting lines that intersect the plane at separate points.

Sketch a plane and two lines that do not intersect lying in the plane.

Sketch a plane and two intersecting lines that lie in the plane.

Assignment: 8 #2, 4, 6, 8, 10, 12, 14, 18, 20, 22, 24, 26, 28, 30, 32, 34, 52, 54, 56, 58 = 20 total

Geometry

1.2 Measuring and Constructing Segments

Postulates and Theorems

Postulate (or _____)

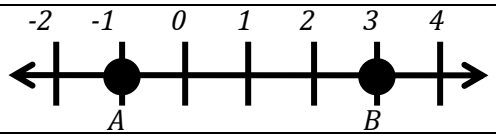
- Rule that is _____

Theorem

- Rule that is _____

Ruler Postulate

Any line can be turned into a _____

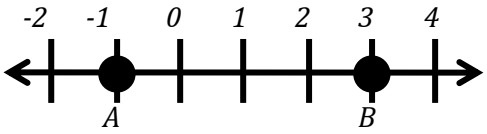


Length Measurement

Distance

- What is it like?
  - _____ _____
  - _____
- How is it named?
  - _____
  - _____

Find AB



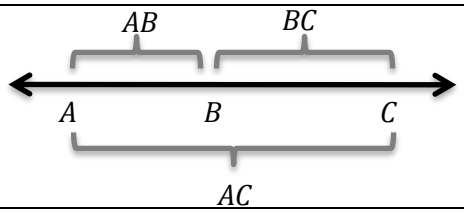
Between

- What is it like?
  - _____ _____
  - _____
- What are examples?
  - _____
  - _____

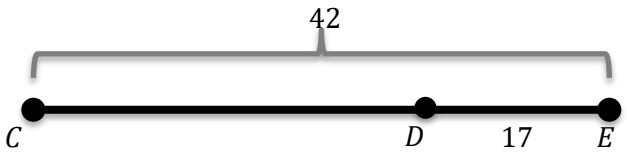
Segment Addition Postulate

If *B* is between *A* and *C*, then _____

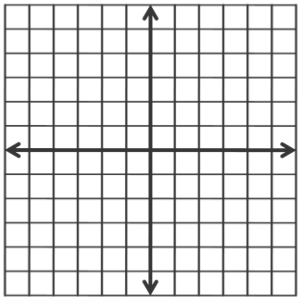
If *AB* + *BC* = *AC*, then _____



Find CD



Graph $X(-2, -5)$ and $Y(-2, 3)$ and find XY.



Congruent Segments

- What is it like?
  - _____ _____
  - _____
  - _____
- What are examples?
  - _____
  - _____

Assignment: 16 #2, 4, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 34, 38, 40, 41, 46, 48 = 20 total

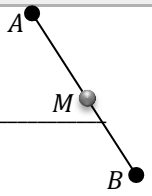
Geometry

1.3 Using Midpoint and Distance Formulas

Midpoint

What is it like?

- _____
- _____
  _____

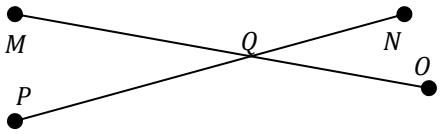


What are some examples?

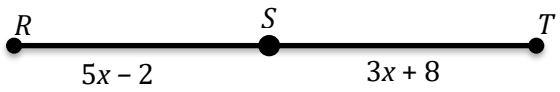
- _____
- _____
- _____

_____ is something that intersects a segment at its _____.

$\overline{MO}$ bisects $\overline{NP}$ at Q. If $PQ = 22.6$, find PN.



Point S is the midpoint of $\overline{RT}$. Find ST.



Midpoint Formula

Midpoint = _____

Find the midpoint of $G(7, -2)$ and $H(-5, -6)$

The midpoint of $\overline{AB}$ is $M(5, 8)$. One endpoint is $A(2, -3)$. Find the coordinates of endpoint B.

Distance Formula

***d* = _____**

What is PQ if $P(2, 5)$ and $Q(-4, 8)$?

Assignment: 24 #2, 4, 6, 8, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 44, 46, 48, 50, 59 = 20 total

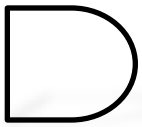
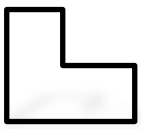
Geometry

1.4 Perimeter and Area in the Coordinate Plane

Polygons

What is it like?

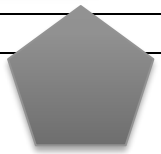
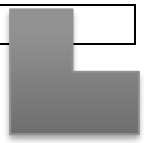
- Sides are _____ segments.
- Sides only intersect at _____.
- _____
- _____


Convex and Concave

Convex

- All angles _____.
- A line containing a side does NOT go _____ of the shape.

_____ _____

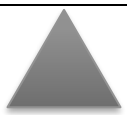
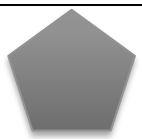
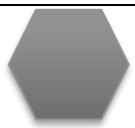
Concave

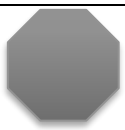
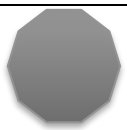
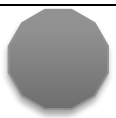
- Not _____.
- There's a "_____".



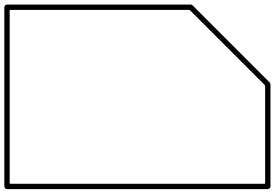
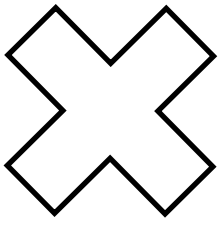

_____ _____ _____ _____

Classify Polygons

Number of Sides	3	4	5	6	7
Type of Polygon					
Example					

Number of Sides	8	9	10	12	13	n
Type of Polygon						
Example						

Classify each polygon by the number of sides. Tell whether it is *convex* or *concave*.

Geometry 1.4 Name: _____

Perimeter (*P*)

- _____

Circumference (*C*)

- _____

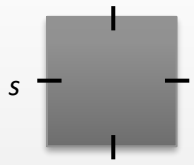
Area (*A*)

- _____

Square

Side s

- *P* = _____
- *A* = _____

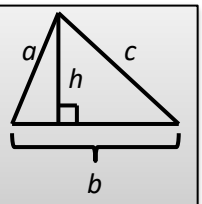


Triangle

Sides a, b, c

Base b, Height h

- *P* = _____
- *A* = _____

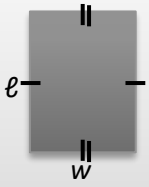


Rectangle

Length ℓ

Width w

- *P* = _____
- *A* = _____

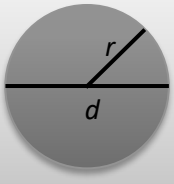


Circle

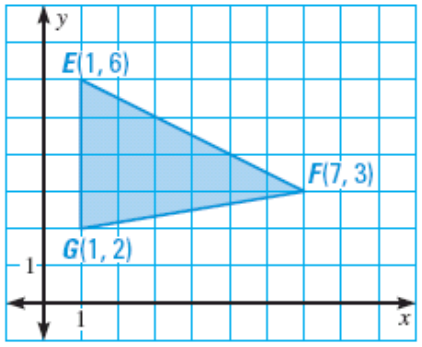
Diameter d

Radius r

- *C* = _____
- *A* = _____

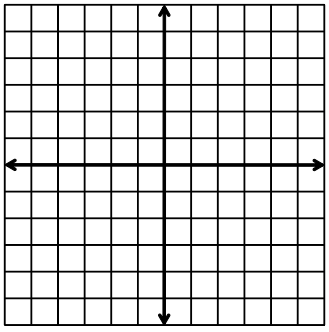


Describe how to find the height from *F* to $\overline{EG}$ in the triangle.



Find the perimeter and area of the triangle.

Find the area of ▱*ABCD* with vertices *A*(1, 3), *B*(3, −3), *C*(−2, −3), and *D*(−4, 3).



Assignment: 32 #2, 4, 6, 10, 12, 16, 18, 20, 24, 26, 36, 38, 39, 40, 42 = 15 total

Created by Richard Wright – Andrews Academy To be used with Big Ideas Geometry, 2022

Geometry

1.5 Measuring and Constructing Angles

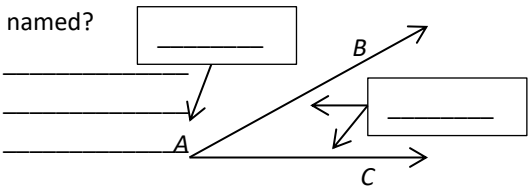
Angle

What is it like?

- Two _____ with common _____ (_____)
- Formed when two lines _____

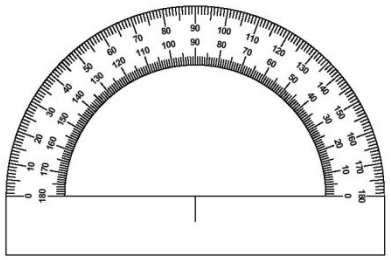
How is it named?

- _____
- _____
- _____



Protractor Postulate

A protractor can be used to _____



Angle Measure

What is it like?

- Difference of _____ of each ray on a _____
- m∠A = _____

How is it named?

- _____
- _____

Classifying Angles

Acute

- _____

Right

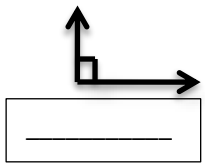
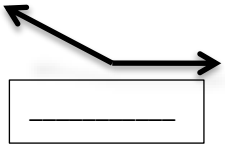
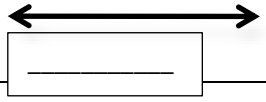
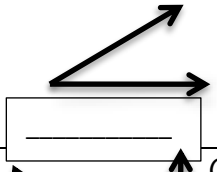
- _____

Obtuse

- _____

Straight

- _____

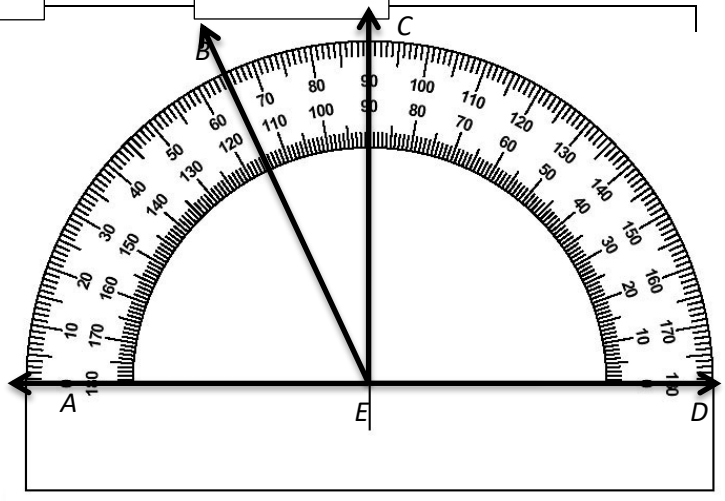
Find the measure of each angle and classify.

∠*DEC*

∠*DEA*

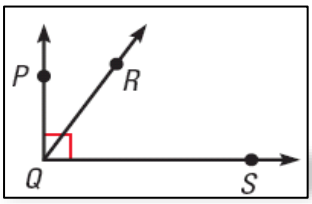
∠*CEB*

∠*DEB*



Geometry 1.6 Name: _____

Name all the angles in the diagram.

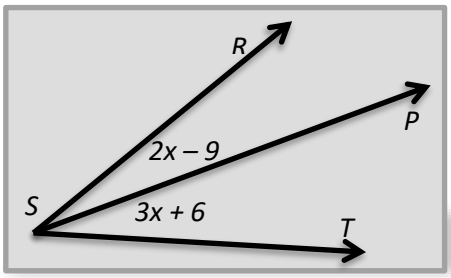


Which angle is a right angle?

Angle Addition Postulate

If *P* is in the interior of ∠*RST*, then _____

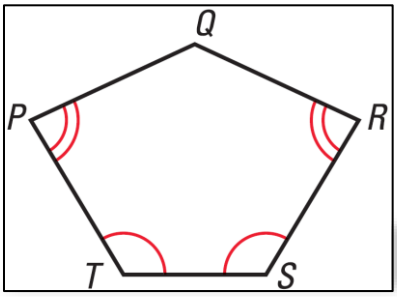
If m∠*RST* = 72°, find m∠*RSP* and m∠*PST*



Congruent Angles

- What is it like?
  - _____ _____
  - _____
  - _____
- What are examples?
  - _____
  - _____

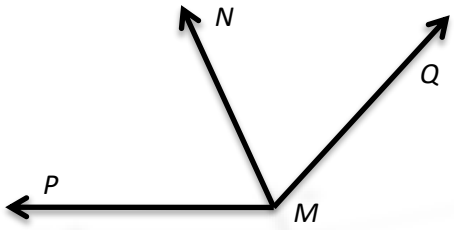
Identify all pairs of congruent angles in the diagram.



In the diagram, m∠*PQR* = 130° , m∠*QRS* = 84° , and m∠*TSR* = 121° . Find the other angle measures in the diagram.

Angle Bisector is a _____ that divides an angle into _____ angles that are _____.

$\overrightarrow{MN}$ bisects ∠*PMQ*, and m∠*PMQ* = 122°. Find m∠*PMN*.



Assignment: 41 #2, 4, 6, 8, 10, 12, 16, 18, 20, 22, 24, 26, 28, 32, 34, 36, 38, 46, 61, 69 = 20 total

Geometry

1.6 Describing Pairs of Angles

Angle Pairs

Adjacent Angles

What is it like?

- Angles that share a _____ and _____
- Are _____ to each other
- Are not _____ each other

What are examples?

- _____
- _____

Complementary and Supplementary

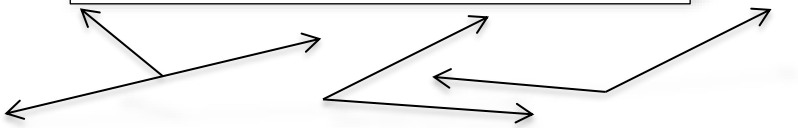
Complementary Angles

- Two angles whose sum is _____

Supplementary Angles

- Two angles whose sum is _____

Complementary and Supplementary Angles do _____ have to be _____

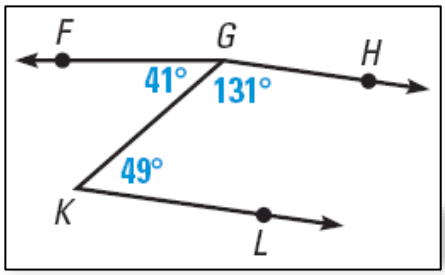


In the figure, name a pair of…

complementary angles,

supplementary angles,

adjacent angles.



Are $\angle KGH$ and $\angle LKG$ adjacent angles? Explain.

Are $\angle FGK$ and $\angle FGH$ adjacent angles? Explain.

Given that $\angle 1$ is a complement of $\angle 2$ and $m\angle 2 = 8^\circ$, find $m\angle 1$.

Given that $\angle 3$ is a supplement of $\angle 4$ and $m\angle 3 = 117^\circ$, find $m\angle 4$.

$\angle LMN$ and $\angle PQR$ are complementary angles. Find the measures of the angles if $m\angle LMN = (4x - 2)^\circ$ and $m\angle PQR = (9x + 1)^\circ$

Geometry 1.6 Name: _____

Linear Pair

What is it like?

- Angles that make a _____.
- _____ar pair
- _____ angles

What are examples?

- _____
- _____

Vertical Angles

What is it like?

- Angles formed when _____.
- On _____ sides of the _____
- Are not necessarily _____ each other

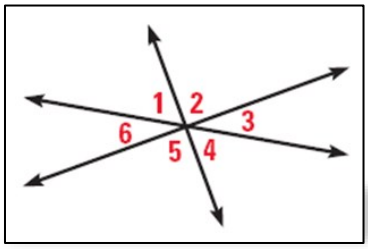
What are examples?

- _____
- _____

Vertical Angles are _____.

Do any of the numbered angles in the diagram below form a linear pair?

Which angles are vertical angles?



Two angles form a linear pair. The measure of one angle is 3 times the measure of the other. Find the measure of each angle.

Diagrams

Things you can assume in diagrams.

Points are _____

_____

Lines are _____

_____

Things you cannot assume in diagrams

_____ unless stated

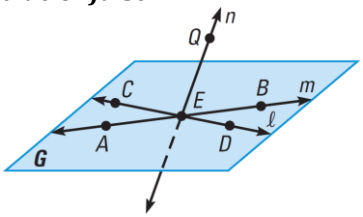
_____ unless stated

Assignment: 50 #2, 4, 6, 8, 10, 12, 14, 16, 20, 22, 24, 26, 28, 40, 42, 51, 52, 53, 54, 62 = 20 total

Name: _____

Geometry Chapter 1 Review

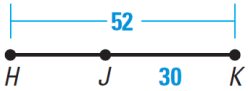
Use the diagram to decide whether the statement is *true* or *false*.



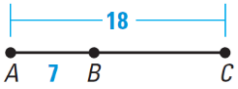
1. Point A lies on line m.
2. Point D lies on line n.
3. Points B, C, E, and Q are coplanar.
4. Points C, E, and B are collinear.
5. Another name for plane G is plane QEC.

Find the indicated length.

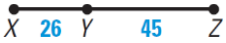
6. Find HJ.



7. Find BC.



8. Find XZ.



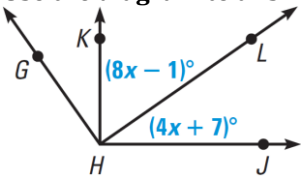
Find the distance between the two points. Round to the nearest tenth.

9. $T(3, 4)$ and $W(2, 7)$
10. $C(5, 10)$ and $D(6, 21)$
11. $M(28, 0)$ and $N(21, 3)$

Find the midpoint between the two points.

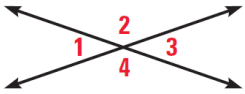
12. $T(3, 4)$ and $W(2, 7)$
13. $C(5, 10)$ and $D(6, 21)$
14. $M(28, 0)$ and $N(21, 3)$
15. Line t bisects $\overline{CD}$ at point M, $CM = 3x$, and $MD = 27$. Find CD.

Use the diagram to answer the follow questions.



16. Classify $\angle GHJ$ as *acute*, *obtuse*, *right*, or *straight*.
17. If $\overrightarrow{HL}$ is an angle bisector of $\angle KHJ$, find the value of x.

Classify each angle pair as *linear pair*, *vertical angles*, or *neither*.

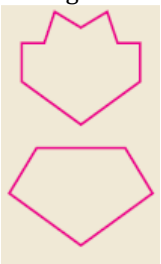


18. $\angle 1$ and $\angle 3$
19. $\angle 2$ and $\angle 3$
20. The measure of an angle is 64°. What is the measure of its complement? What is the measure of its supplement?
21. A convex polygon has half as many sides as a concave 10-gon. Draw the concave polygon and the convex polygon. Classify the convex polygon by the number of sides it has.
22. Find the area of ΔABC if $A(1, 4)$, $B(3, -1)$, and $C(-2, -1)$

Name: _____

Answers

1. True
2. False
3. False
4. False
5. False
6. 22
7. 11
8. 71
9. 3.2
10. 11.0
11. 7.6
12. $\left(\frac{5}{2}, \frac{11}{2}\right)$
13. $\left(\frac{11}{2}, \frac{31}{2}\right)$
14. $\left(\frac{49}{2}, \frac{3}{2}\right)$
15. 54
16. Obtuse
17. 2
18. Vertical angles
19. Linear pair
20. 26°, 116°
21. Pentagon



22. 12.5 units^2