Chapter 1 - Sections 4-6

Geometry (PD 1,2,4)
2024

SUCCESS IS NO ACCIDENT. IT IS HARD WORK, PERSEVERANCE, LEARNING, STUDYING, SACRIFICE, AND MOST OF ALL, LOVE OF WHAT YOU ARE DOING OR LEARNING TO DO.
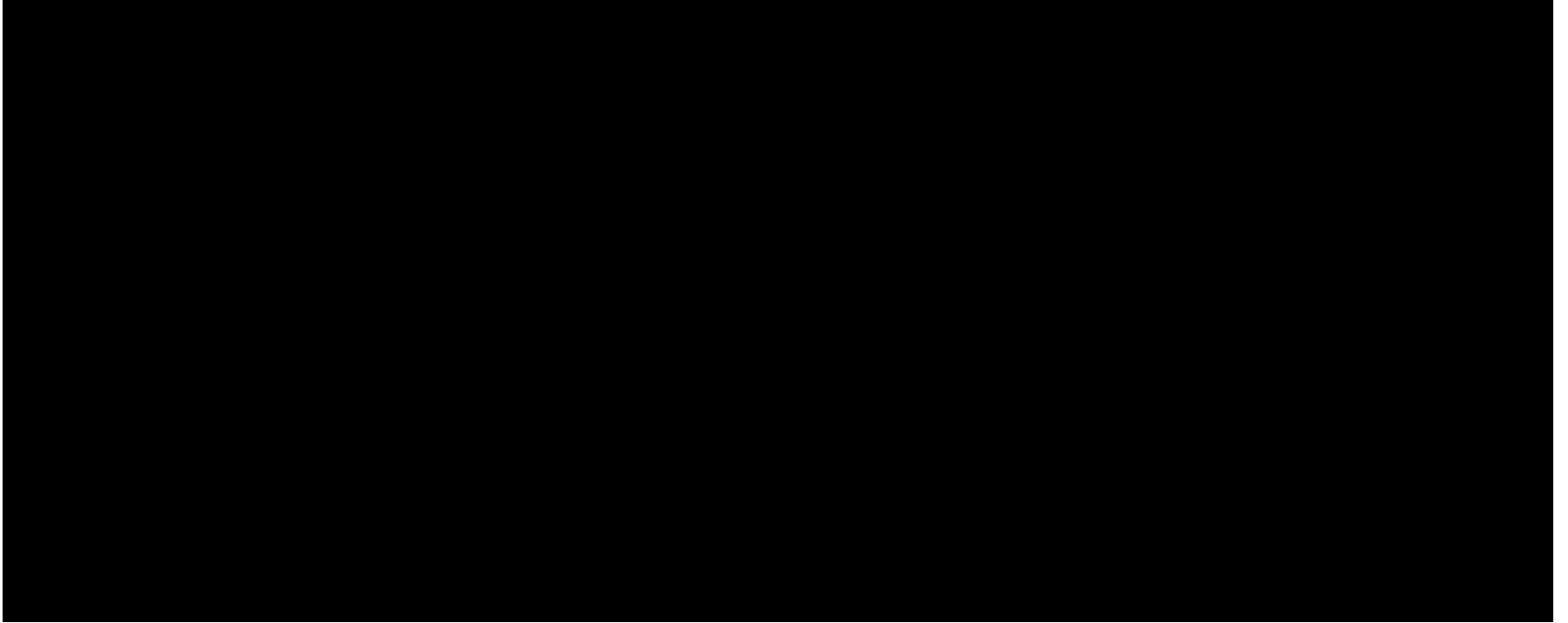
PELÉ

Week Sept 23-27, 2024   Overview

Monday   - **Review**

Tuesday   - TEST on Chapter 1

Wednesday   - NOTES for section 1 of Chapter 2 on Conditional Statements

Thursday   - Notes for section 2 of Chapter 2 on Reasoning: inductive vs deductive

Friday   - Practice Day/Makeup day

NEXT set of slides are the review notes from Chapter 1

KNOW

Geometry Ch.1 Test – Tuesday 9/24

Sections 1-3: Quiz : Terms

A   B   C   addition measured Distance

Between, Ray, opposite rays, Midpoint,

Bisect
2 ≅ parts
Congruent

NAMING NOTATIONS

Section 4: Area + Perimeter Polygons

(7) Heptagon

Section 5+6: Angles

Add Angles · vertex · side

Classify
Acute, Right, Obtuse, Straight
less 90, ∟90, over 90

(not   1 ∕ 2   2 / 1)

Adjacent

A
angle ∠ABC
Bisect x y
B   C
x=y

90° Complementary = 2 sum of 90° angles   right

180° Supplementary = 2 angles sum of 180° straight

1 / 2
1 + 2 = 180°

(adjacent + Supplement) Linear Pair = 2 angles sum of 180 AND form a line

1 / 2

Vertical   1 ≅ 2 Congruent

not example vertical

Sections 1-3 learning targets for quiz

Learning Target: Use defined terms and undefined terms.

Learning Target: Measure and construct line segments.

Vocabulary

| undefined terms | point | line | plane | collinear points | coplanar points | defined terms |

| line segment, or segment | endpoints | ray | opposite rays | intersection |

Using Midpoint and Distance Formulas

Learning Target: Find midpoints and lengths of segments.

Vocabulary

| midpoint | segment bisector |

Anchor Descriptor - G.2.1.2 Solve problems using analytic geometry.

Eligible Content - G.2.1.2.1 Calculate the distance and/or midpoint between 2 points on a number line or on a coordinate plane.

Sections 4-6 of Chapter 1 for Week -- Objectives/learning targets

1.4 Perimeter and Area in the Coordinate Plane	Find perimeters and areas of polygons in the coordinate plane.	• I can classify and describe polygons. • I can find perimeters of polygons in the coordinate plane. • I can find areas of polygons in the coordinate plane.
1.5 Measuring and Constructing Angles	Measure, construct, and describe angles.	• I can measure and classify angles. • I can construct congruent angles. • I can find angle measures. • I can construct an angle bisector.
1.6 Describing Pairs of Angles	Identify and use pairs of angles.	• I can identify complementary and supplementary angles. • I can identify linear pairs and vertical angles. • I can find angle measures in pairs of angles.

Geometry Standard ID:

Anchor Descriptor - G.1.2.1 Recognize and/or apply properties of angles, polygons and polyhedra.

MONDAY -   section 1.4 perimeter and area

QUIZ after notes checked together to form a packet to use on quiz if period 1 or 4

QUIZ

THEN students work on problems from

handout EXTRA PRACTICE 1.4

Black practice book pg. 7 Extra Practice - finish for homework.

Key Idea

Polygons

In geometry, a figure that lies in a plane is called a plane figure. Recall that a *polygon* is a closed plane figure formed by three or more line segments called *sides*. Each side intersects exactly two sides, one at each *vertex*, so that no two sides with a common vertex are collinear.

side $\overline{BC}$ vertex D

polygon *ABCDE*
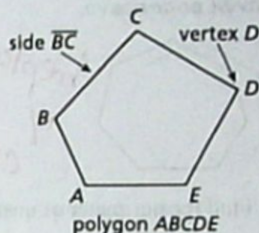
The number of sides determines the type of polygon, as shown in the table. You can also name a polygon using the term *n*-gon, where *n* is the number of sides. For instance, a 14-gon is a polygon with 14 sides.

A polygon is *convex* when no line that contains a side of the polygon contains a point in the interior of the polygon. A polygon that is not convex is *concave*.

Number of sides	Type of polygon
3	Triangle
4	Quadrilateral
5	Pentagon
6	Hexagon
7	Heptagon
8	Octagon
9	Nonagon
10	Decagon
12	Dodecagon
n	*n*-gon

EXAMPLE Classifying Polygons

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

a. convex Octagon

b. Pentagon concave
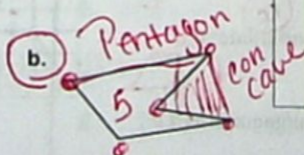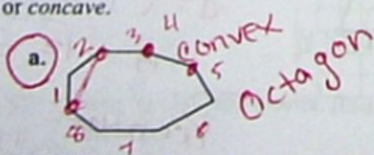
Use DISTANCE formula for slant lengths from points
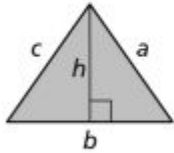

Perimeter means add lengths around it.

Area means covering so use formulas for "square" coverage

Distance formula use for the LENGTH between points graphed

You can use the formulas below and the Distance Formula to find perimeters and areas of polygons in the coordinate plane.
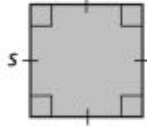
Perimeter and Area

Triangle	Square	Rectangle	Parallelogram

Triangle
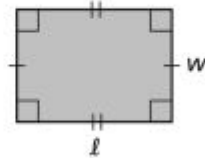$P = a + b + c$
$A = \frac{1}{2}bh$

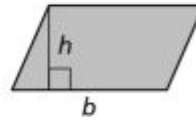**Square**
$P = 4s$
$A = s^2$

Rectangle
$P = 2\ell + 2w$
$A = \ell w$

Parallelogram
$A = bh$

Tuesday - Section 5 Chapter 1 on Angle Addition

Use pg 8 of the Black Practice Book to guide examples as take notes.

The angle is NAMED by the direction of three points and vertex in middle.

The angles have classifications: acute, right, obtuse, and straight.

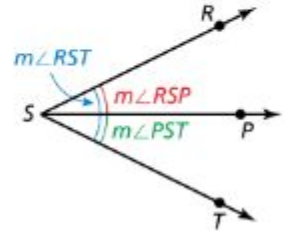Angles, like segments, can be added by the common ray side and vertex.

Postulate

1.4 Angle Addition Postulate

Words If P is in the interior of $\angle RST$, then the measure of $\angle RST$ is equal to the sum of the measures of $\angle RSP$ and $\angle PST$.

Symbols If P is in the interior of $\angle RST$, then

$$m\angle RST = m\angle RSP + m\angle PST.$$

ANGLE intro.

Exercises 1–4, find the angle measure. Then classify the angle.

1. $m\angle AOB = 50°$ measure
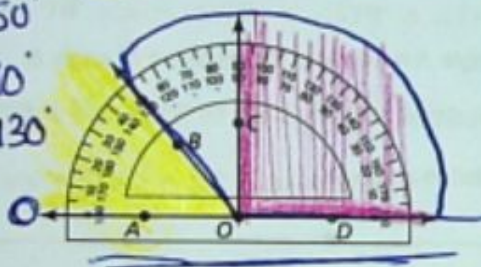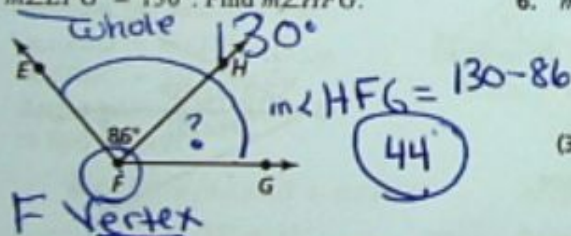2. $m\angle COD = 90°$
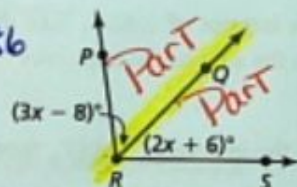3. $m\angle BOD = 130°$
4. $m\angle AOD = 160°$

1.) Acute (less than 90°)
2.) Right = 90°
3.) Obtuse (over 90°)
4.) Straight = 180°

Exercises 5–8, find the indicated angle measure.

5. $m\angle EFG = 130°$. Find $m\angle HFG$.

Whole 130°

$m\angle HFG = 130 - 86$

$\boxed{44°}$

F Vertex

6. $m\angle PRS = 98°$. Find $m\angle QRS$.

Part

$(3x - 8)°$
$(2x + 6)°$

Setup equation

$(3x-8) + (2x+6) = 98$

Part ⊕ Part = Whole

$5x - 2 = 98$ $x = 20$
$5x = 100$

$(7x - 10) + (2x + 1) = 90°$

7. $m\angle JNM = 103°$. Find $m\angle JNK =$

103
− 24
= 32

$\boxed{47°}$

24° 32°
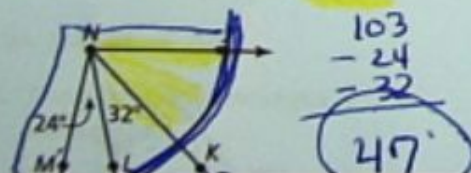
8. Find $m\angle WXZ$.
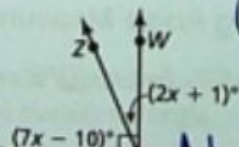
$(2x + 1)°$
$(7x - 10)°$

Wednesday - section 6 from chapter 5 on additional terms

Angle PAIRS have relationships based on the term

- Adjacent angles
- Linear Pair ***special term for adjacent supplementary angles
- Supplementary angles
- Complementary angles
- Vertical angles **** show how they are congruent and will be the main used on later in proofs.

Use Black practice book pg 9 for examples as well as handouts.

THURSDAY Plan for practice work.

Finish 1.5 Extra Practice Handout #9,10

Do 1.5 Reteach pg 36 Handout # 1-3, 4(equation work), 5 --- Mrs. Pletcher will guide you through

Finish 1.5 PUZZLE time -pg 38 ALL (#5, 8 Need separate work paper for equation work to find the value of x and Mrs. Pletcher can show on the board)

1.6 Puzzle time Handout pg 46 G-J (Need separate work paper for equation work to find the value of x and Mrs. Pletcher can show on the board)
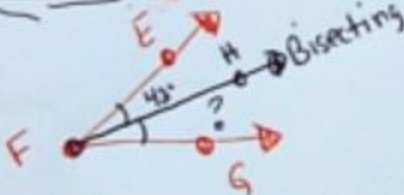
Black Practice Book pg 9 & 11

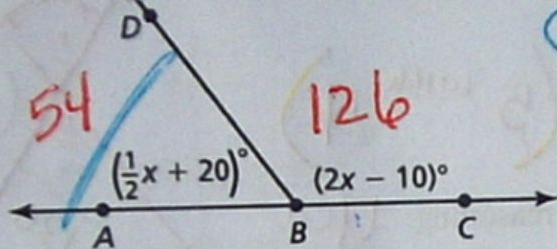ANGLE ---- bisect   means 2 equal parts

5. $\overrightarrow{FH}$ bisects $\angle EFG$, and $m\angle EFH = 42°$ Find $m\angle GEH$ and $m\angle EFG$.

$m\angle FH = part = 42$

$m\angle EFG = whole = 84$

Bisecting

36 Geometry
Resources by Chapter

D

54   126

$(\frac{1}{2}x + 20)°$ $(2x - 10)°$

A   B   C

was 78°

65°
GOT

33°
TEACHER

48°
SHE

G. Find $m\angle ABD$. $\frac{1}{2}x + 20 = \frac{1}{2}(68) + 20 = 54$

H. Find $m\angle DBC$. $2x - 10 = 2(68) - 10 = 126$

Equation Needed

$$\frac{1}{2}x + 20 + 2x - 10 = 180$$

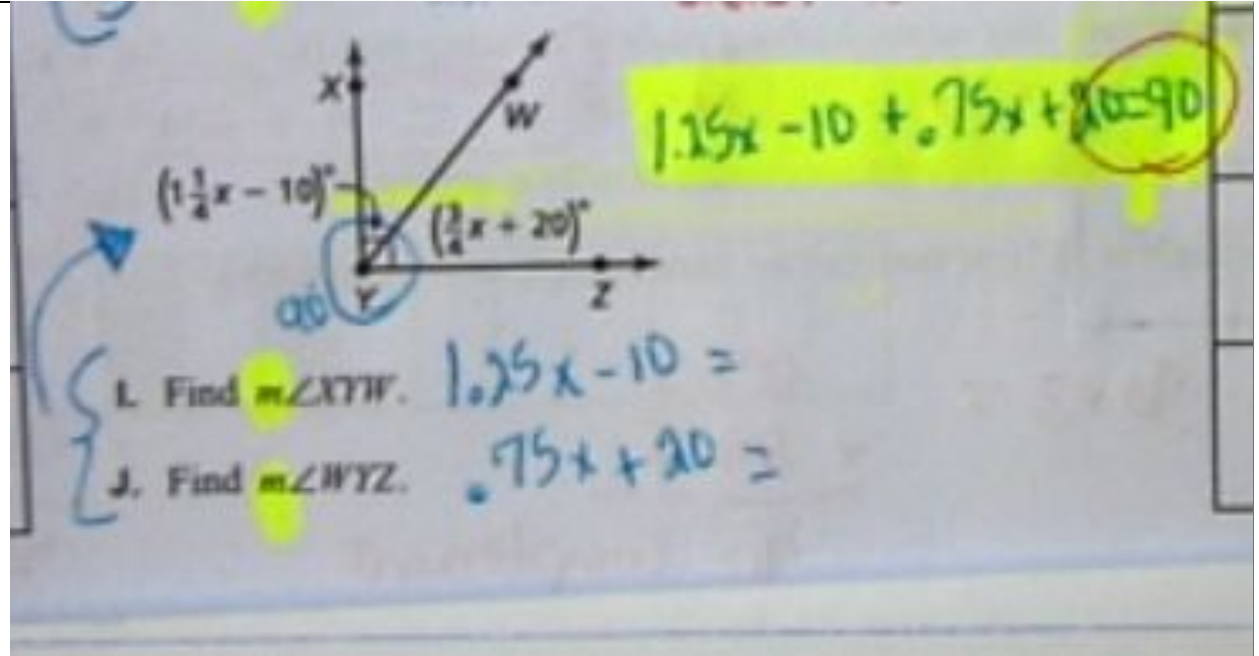$\frac{1}{2} + 2$ $20 - 10$

$$2.5x + 10 = 180$$
$$-10$$
$$2.5x = 170$$
$$x = 68$$

If algebra needed, show the setup equation of the diagram relationship.

Solve,

Plug value back in

Clearly answer request

$$1.25x - 10 + .75x + 20 = 90$$

$\left(1\frac{1}{4}x - 10\right)^{\circ}$

$\left(\frac{3}{4}x + 20\right)^{\circ}$

I. Find $m\angle XYW$. $1.25x - 10 =$

J. Find $m\angle WYZ$. $.75x + 20 =$

Friday Black Practice Book Assignments:

Pg 9: Section 1.5 DO All problems (8)

Pg 10: Review do only # 1,4,6,8

Pg 11: Section 1.6 DO all problems (10)

Pg 12: Review do only # 1,2,3,8,9

TEST to review so do the following on practice test

  pg. 15-18

  # 3, 5, 6, 13, 14, 17, 18, 21