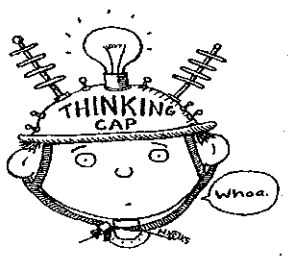
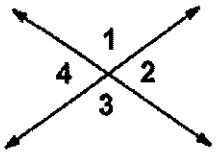
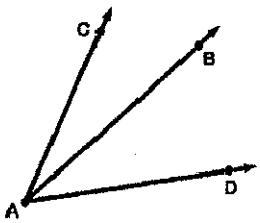
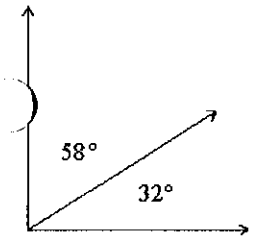
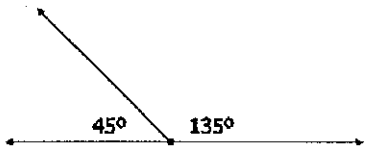
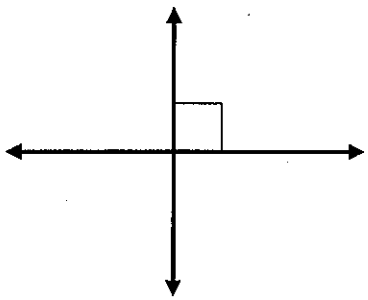
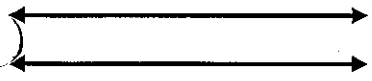
Name:_____ Date:_____ Period:_____



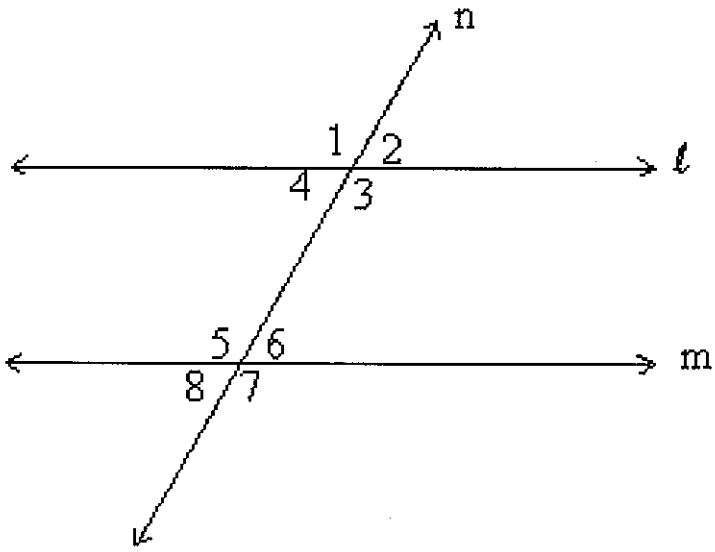
Lesson 11-1 (pages 612-616)

Angles & Line Relationships

The Examples:	The Vocabulary:
	Vertical Angles:
	Adjacent Angles:
	Complementary Angles:
	Supplementary Angles:
	Perpendicular Lines:
	Parallel Lines:

Name:_____ Date:_____ Period:_____

Transversals



The Examples:

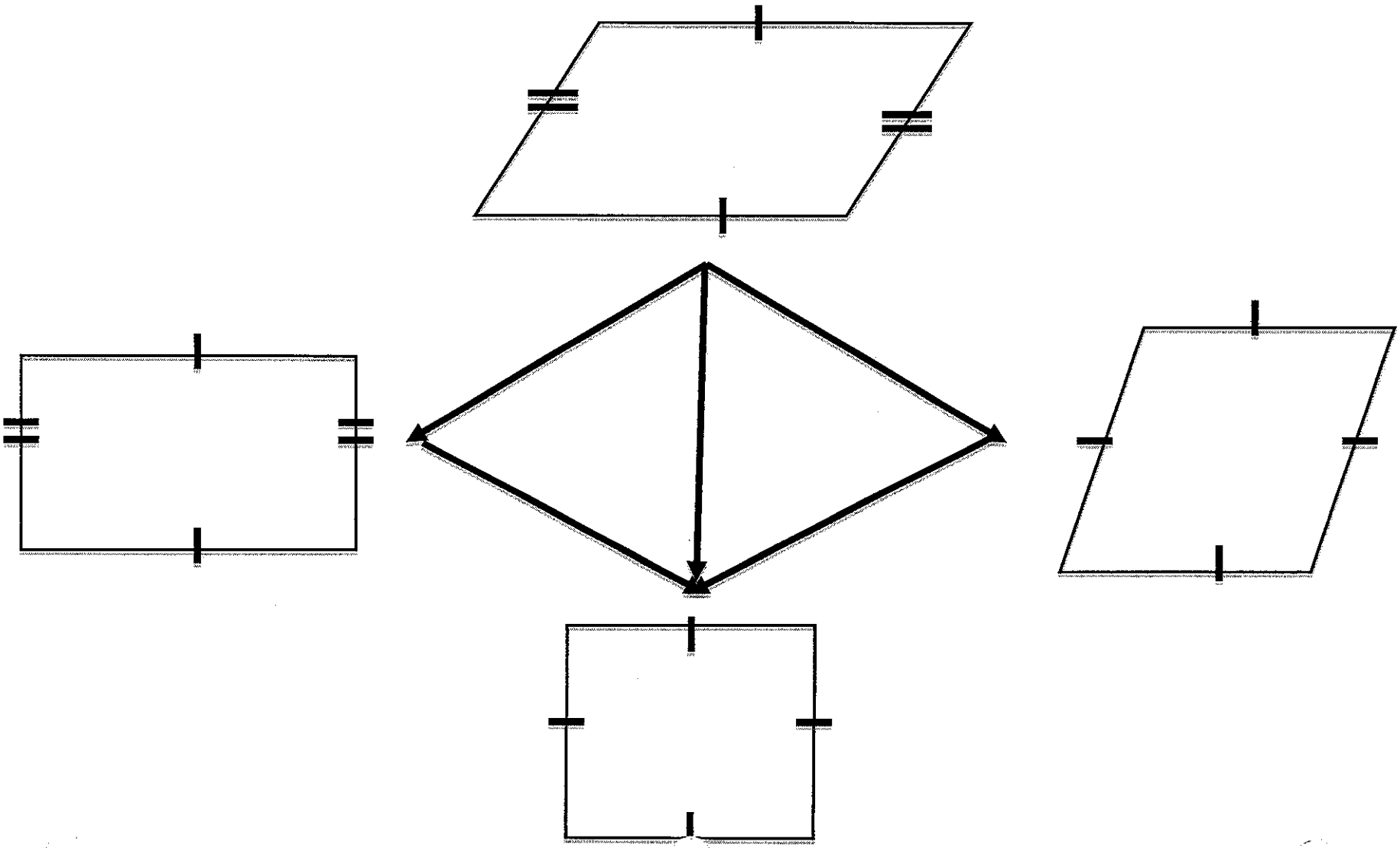
The Vocabulary:

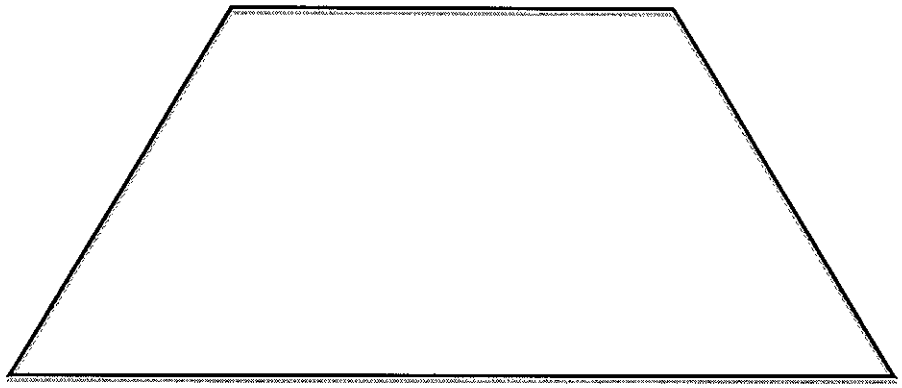
Alternate Interior Angles:

Alternate Exterior Angles:

Corresponding Angles:

Lesson 11-4 (pgs. 612-616)
Quadrilaterals

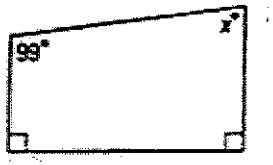


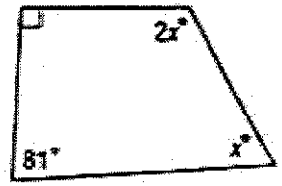


Determine whether each statement is *sometimes, always,* or *never* true.

1) All parallelograms are quadrilaterals
2) All squares are rectangles.
3) All rectangles are parallelograms.
4) All rhombi are squares
5) All trapezoids are parallelograms.

Find the value of each missing angle.





Lesson 11-5 (pgs. 617-622)

Definitions:

Characteristics:

Polygons

Examples:

Show examples on the backside.

Non-Examples:

Number of Sides	Picture	Type of Polygon

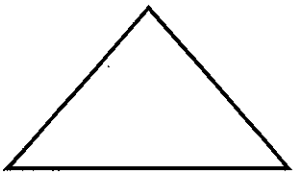
Lesson 11-6 (pgs. 624-630)

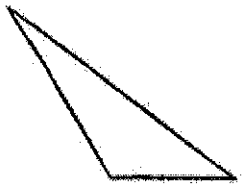
Area of Parallelograms, Triangles, & Trapezoids

Area:

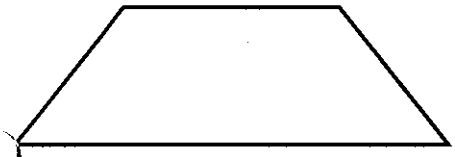
Area of Parallelograms

Area of Triangles





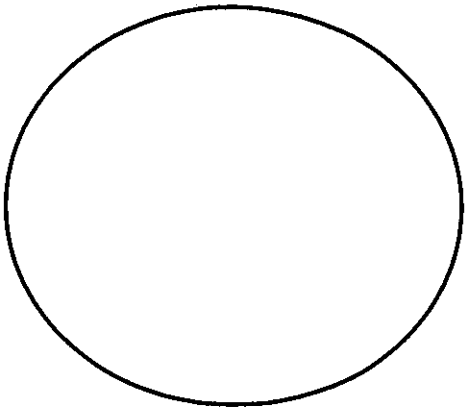
Area of Trapezoids



Lesson 11-7 (pgs. 631-635)

Circles and Circumference

Circle:

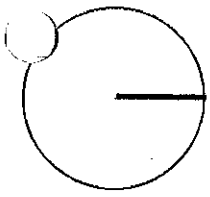


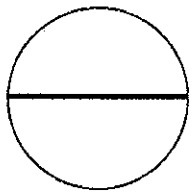
Radius:

Diameter:

Pi:

Circumference:

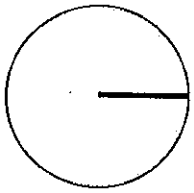


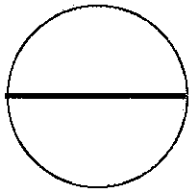


Lesson 11-8 (pgs. 636-641)

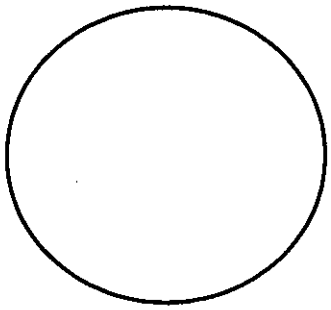
Area of Circles

Area of Circles





Area of the Shaded Sector

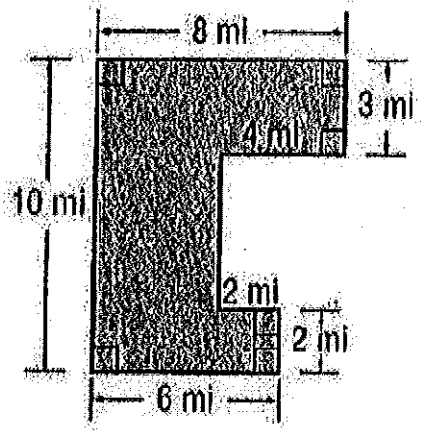


Lesson 11-9 (pgs. 642-647)

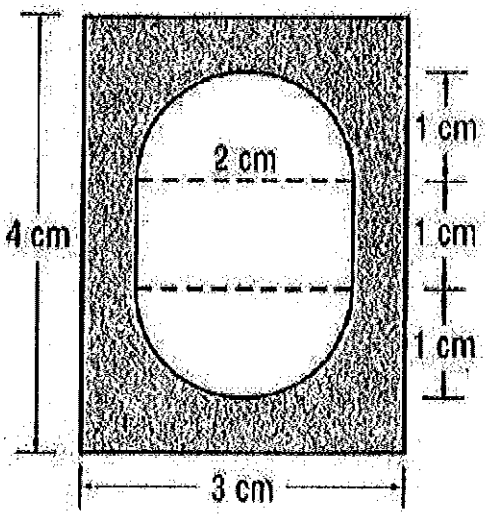
Area of Composite Figures

Composite Figure:

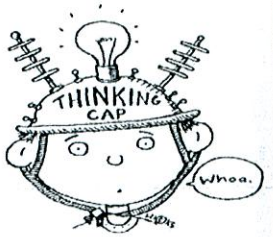
Find the area of the figure.



Find the area of the shaded region.

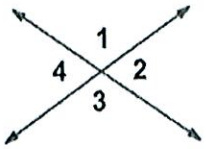


Name:_____ Date: 4/3/12 Period:_____



Lesson 11-1 (pages 612-616)
Angles & Line Relationships

The Examples:



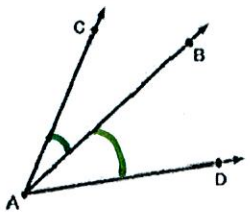
$\angle 1 \cong \angle 3$

$\angle 2 \cong \angle 4$

The Vocabulary:

Vertical Angles:

When 2 lines intersect, the opposite angles are vertical angles.



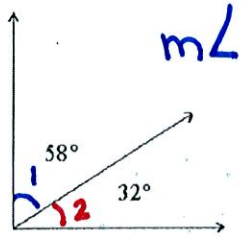
$\angle CAB$ is adjacent to $\angle BAD$

"next to"

Adjacent Angles:

Two angles that share
- a common vertex ($\cdot A$)
- a Common side ($\overrightarrow{AB}$)

* They do NOT overlap

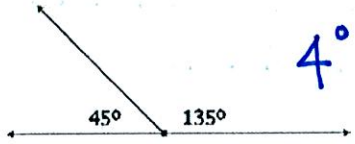


$m\angle 1 + m\angle 2 = 90°$

$4°, 86°$

Complementary Angles:

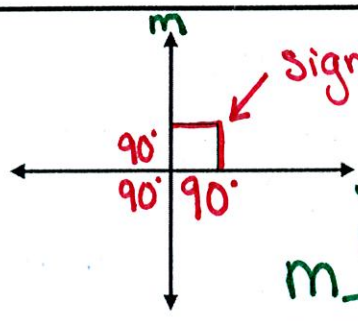
Two angles that add up to 90°



$4°, 176°$

Supplementary Angles:

Two angles that add up to 180°



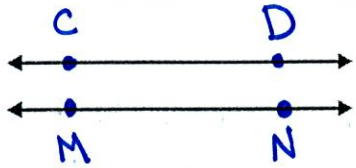
signifies 90°

symbol for perpendicular

$m \perp j$

Perpendicular Lines:

Two lines that intersect to form right (90°) angles.



$\overleftrightarrow{CD} \parallel \overleftrightarrow{MN}$

↑ symbol for parallel

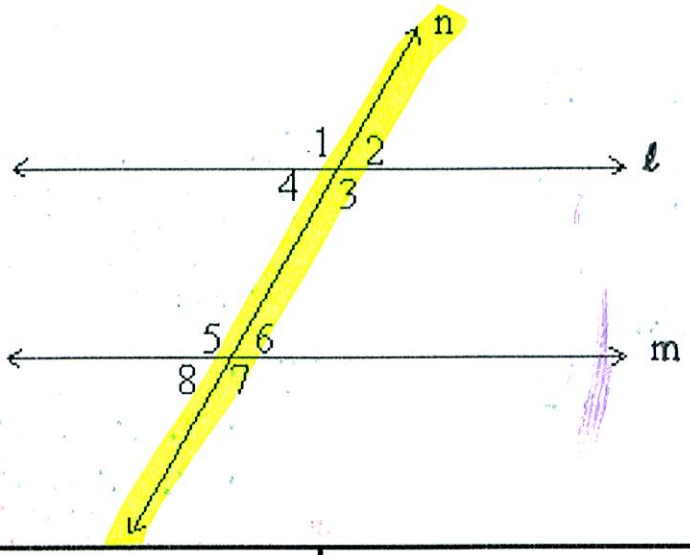
Parallel Lines:

Two lines that do NOT intersect and are equal distance apart

Name:_____ Date:_____ Period:_____

a line that intersects 2 parallel lines

Transversals



The Examples:

$\angle 5 \cong \angle 3$

$\angle 4 \cong \angle 6$

The Vocabulary:

Alternate Interior Angles:

angles that are on opposite sides of the transversal and inside the parallel lines

$\angle 8 \cong \angle 2$

$\angle 1 \cong \angle 7$

Alternate Exterior Angles:

angles that are on opposite sides of the transversal and outside the parallel lines

$\angle 1 \cong \angle 5$

$\angle 4 \cong \angle 8$

$\angle 2 \cong \angle 6$

$\angle 3 \cong \angle 7$

Corresponding Angles:

two angles that are in the same position on the parallel lines in relation to the transversal

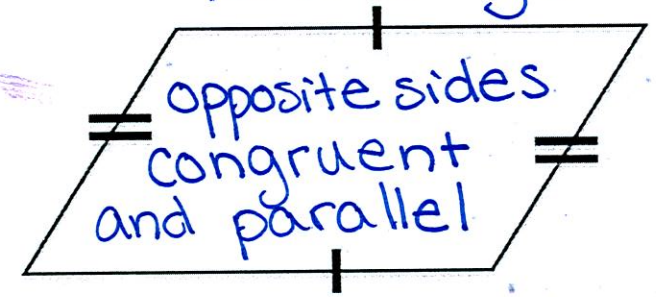
4/6/12

Lesson 11-4 (pgs. 612-616)

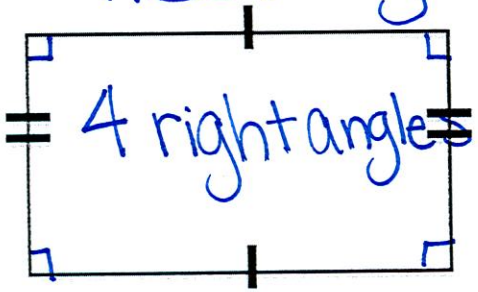
4 ← Quadrilaterals → side

a figure that has 4 sides and 4 angles

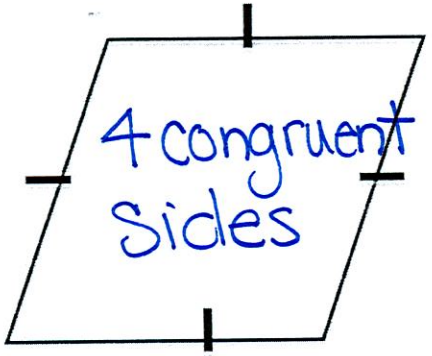
Parallelogram

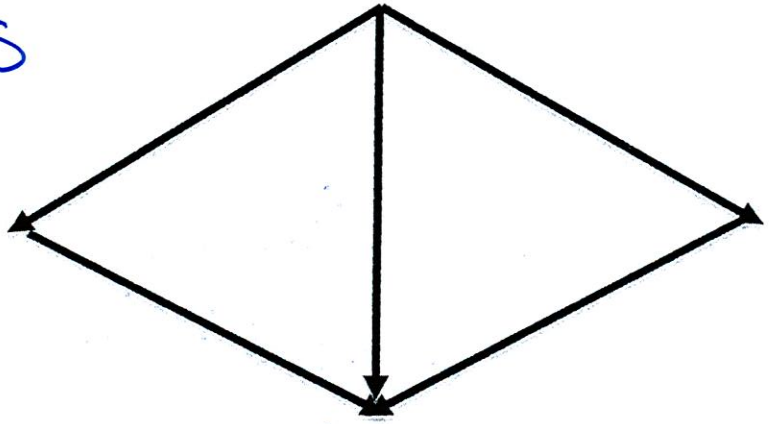


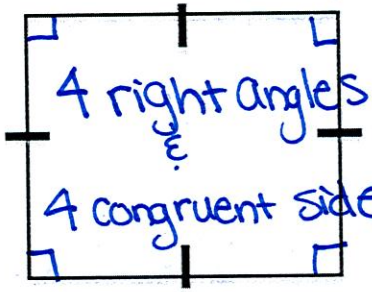
Rectangles



Rhombus

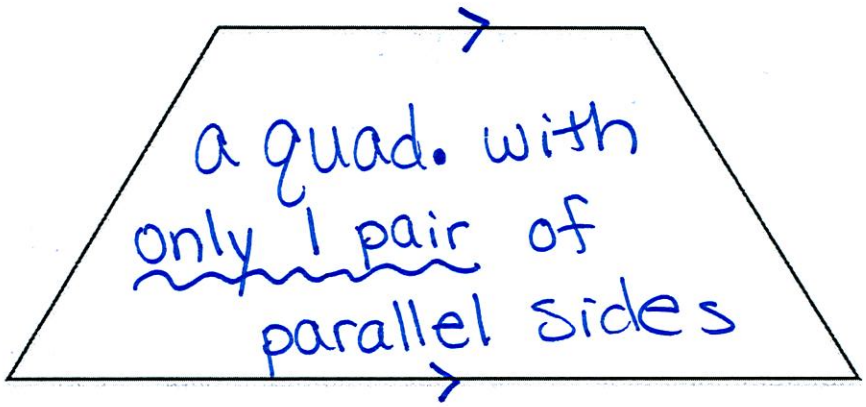






Square

Trapezoid



Determine whether each statement is *sometimes*, *always*, or *never* true.

always 1) All parallelograms are ~~quadrilaterals.~~ → 4 sides always

always 2) All squares are ~~rectangles.~~ → 4 right angles

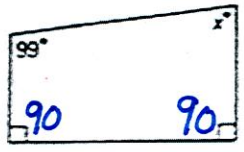
always 3) All rectangles are ~~parallelograms.~~ → opposite sides are ≅ & //

sometimes 4) All rhombi are ~~squares.~~ → 4 right ∠'s & 4 ≅ sides

never 5) All trapezoids are parallelograms.

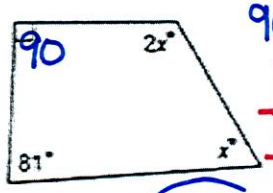
Find the value of each missing angle.

* All four angles = 360°



90 + 90 + 99 = 279

360 − 279 = 81°



90 + 81 + x + 2x = 360

171 + 3x = 360

−171 −171

3x = 189

$\frac{3x}{3} = \frac{189}{3}$

x = 63°

2x = 126°

Lesson 11-5 (pgs. 617-622)

Definitions:

a many-sided figure

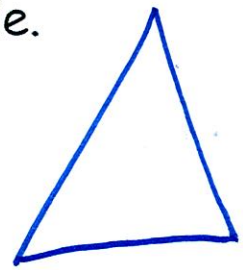
Characteristics:

- many-sided (3+)
- closed
- straight
- Simple

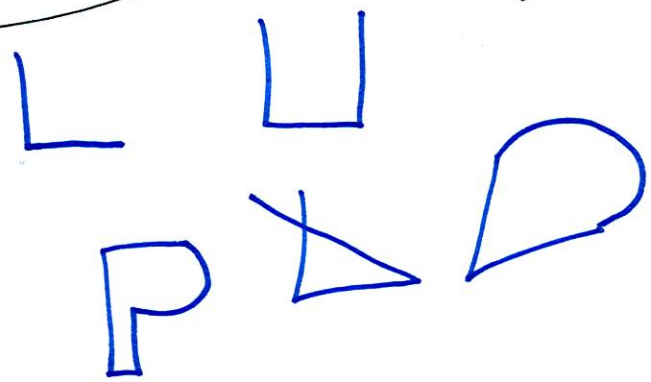
Polygons

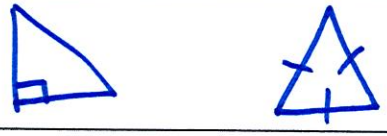
Examples:

Show examples on the backside.



Non-Examples:

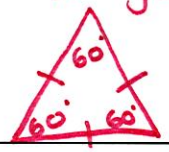


Number of Sides	Picture	Type of Polygon
3		Triangle
4		Quadrilateral
5		Pentagon
6		Hexagon
7		Heptagon
8		Octagon
9		Nonagon
10		Decagon

Regular Polygon: ex: equilateral triangle

all sides congruent

AND all angles congruent



square 

Find the sum of the measures of the interior angles

$(5-2)180 = 540°$

↑ # of sides

ex: 12-gon

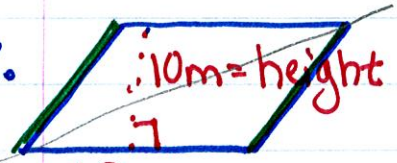
$(12-2)180 = 1,800°$

$1800 \div 12 = 150°$

Lesson 11-6

3/23/11 Area of Parallelograms, Triangles and Trapezoids (p624-630)

ex:



$A = bh$

$A = 12 \cdot 10$

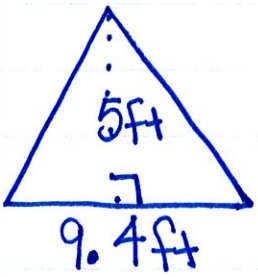
$A = 120\ m^2$

① write the formula
② Substitute
③ Solve with label

* Area labels are always squared

Area: the number of square units needed to cover the surface

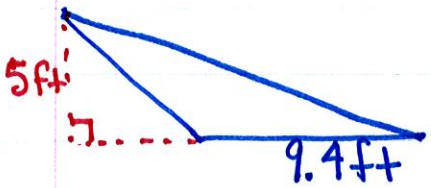
ex:



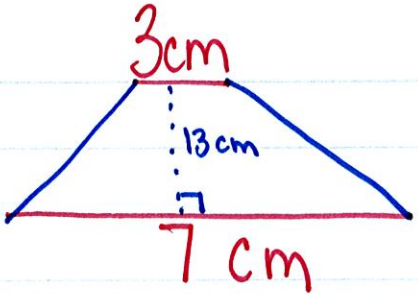
$A = \frac{1}{2}bh$

$A = \frac{1}{2} \times 9.4 \times 5$

$A = 23.5\ ft^2$



ex:



$$A = \frac{1}{2}(b_1 + b_2)h$$

$$A = \frac{1}{2}(3 + 7)13$$

$$A = 65\,cm^2$$

2 radii = 1 diameter

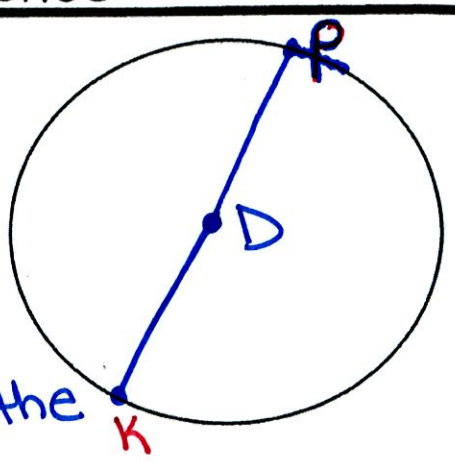
1 radius = ½ diameter

Lesson 11-7 (pgs. 631-635)

Circles and Circumference

Circle: an infinite amount of connected points that are equidistant from the center point

⊙D ← symbol



Radius: a line segment connecting the center point to a point **ON** the circle

r

ex: $\overline{DK}$ or $\overline{KD}$

ex: $\overline{DP}$ or $\overline{PD}$

Diameter: a line segment connecting two points **ON** the circle **and** passing through the center point

d

ex: $\overline{KP}$ or $\overline{PK}$

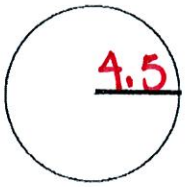
Pi: a ratio comparing the circumference to the diameter

π

ex: $\frac{C}{d} = \pi = 3.14$ or $3\frac{1}{7}$ or $\frac{22}{7}$

Circumference: the distance around a circle

C

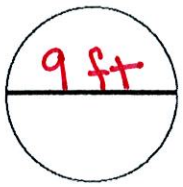


$C = 2\pi r$

$C = 2 \times 3.14 \times 4.5$

$C = 28.26$ ft

$\pi = 3.14$



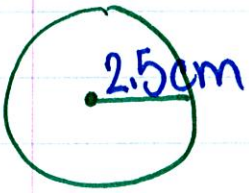
$C = \pi d$

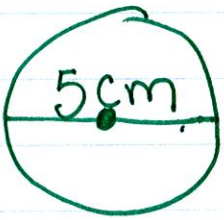
$C = 3.14 \times 9$

$C = 28.26$ ft

Lesson 11-8

3/25/11 Area of Circles (p636-641)





... If d=5 then r=2.5

$$A = \pi r^2$$

$$A = 3.14 \times 2.5^2$$

$$A = 19.625 \text{ cm}^2$$

$$A = \left(\frac{N}{360}\right)\pi r^2 \text{ or } A = \frac{N}{360}(\pi r^2)$$

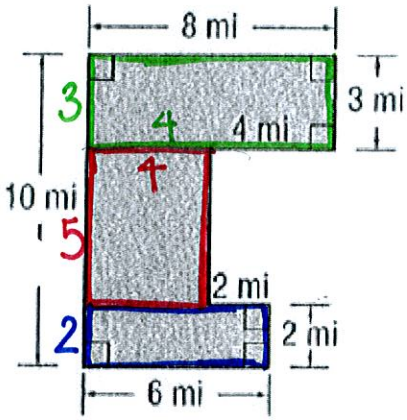
$$A = \left(\frac{108}{360}\right)3.14 \times 2.8^2$$

Lesson 11-9 (pgs. 642-647)

Area of Composite Figures

Composite Figure: a figure made up of two or more shapes

Find the area of the figure.



$A = lw + lw + lw$

$A = 8 \cdot 3 + 5 \cdot 4 + 6 \cdot 2$

$A = 24 + 20 + 12$

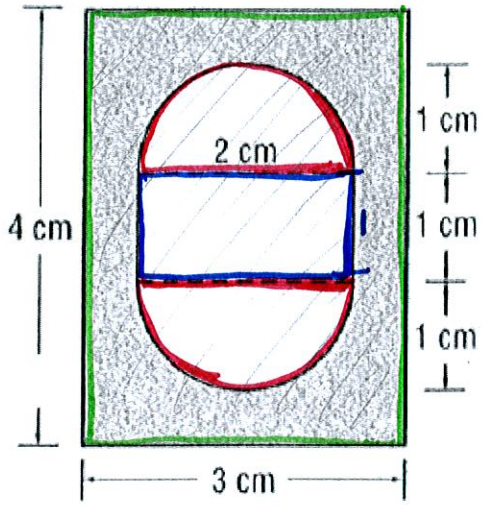
$A = 56 \text{ mi}^2$

① Decide on your figures.

② Find the area of each figure.

③ Add the areas.

Find the area of the shaded region.



Enclosing shape Area − Non-shaded area

$A = lw - (lw + \pi r^2)$

$A = 4 \cdot 3 - (2 \cdot 1 + 3.14 \times 1^2)$

$A = 12 - 5.14$

$A = 6.86 \text{ cm}^2$