17 cows

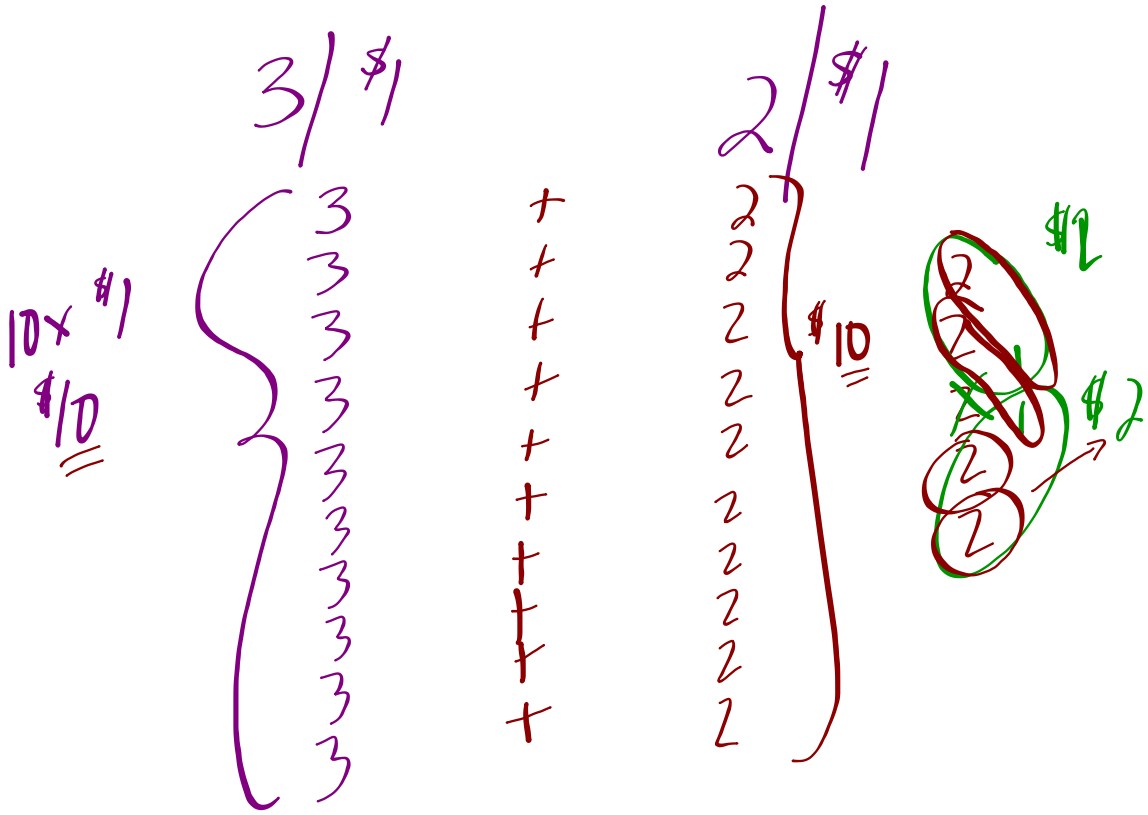
9.1 + 6.1 + 2.1

9.2 6.3 2.9

17

18 ← Mr. H

18 cows


3 $1
10 x $1
$10
2 $1
$10
$2
$2

10. Consider the following statement: The square of the sum of two positive integers is greater than the sum of the squares of the same two integers. Test this statement inductively with three examples, and then prove it deductively.

$(1+2)^2 > 1^2 + 2^2$

$9 > 1 + 4$

$9 > 5$

$(10+12)^2 > 10^2 + 12^2$

$22^2 > 100 + 144$

$484 > 244$

$(x+y)^2 > x^2 + y^2$

$x^2 + 2xy + y^2$

Greater

Notes - Geometry Theorems.doc

*** Now that the notes are taken care of...

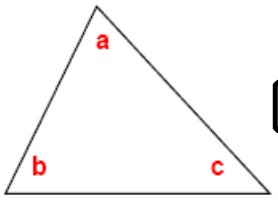
REVIEW??? GMF 10 - Angle Properties

We better do some examples to UNDERSTAND these BIG ideas!!!

Geometry Theorems... SATT

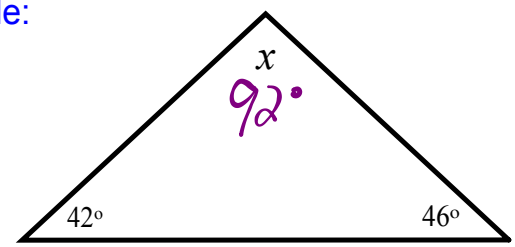
Triangle Angle Sum Theorem:

The sum of the interior angles of any triangle is 180°.



$a + b + c = 180°$

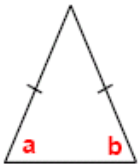
Example:



Isosceles Triangle Theorem:

In an isosceles triangle, the base angles are equal.

The two angles that are opposite to the equal sides.

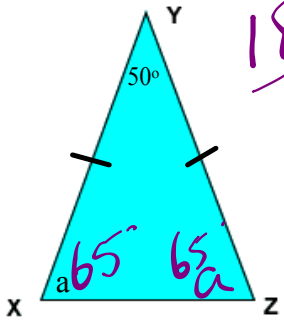


a = b

ITT

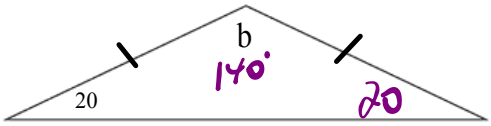
EXAMPLES...

1)



$\frac{180-50}{2}$

2)

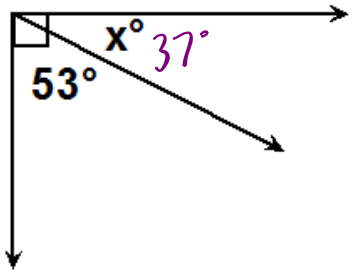


- **Complementary Angles:** CAT
  Two or more angles that have a sum of 90°.

Examples:

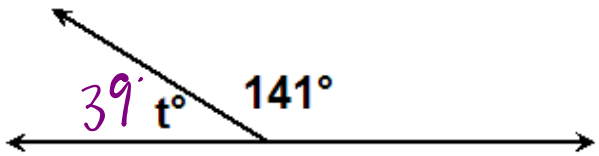
(1) What is the complement of a 50° angle? 40°

(2) Determine the measure of the missing angle.



- **Supplementary Angles**: SAT
  Two or more angles that have a sum of 180°.

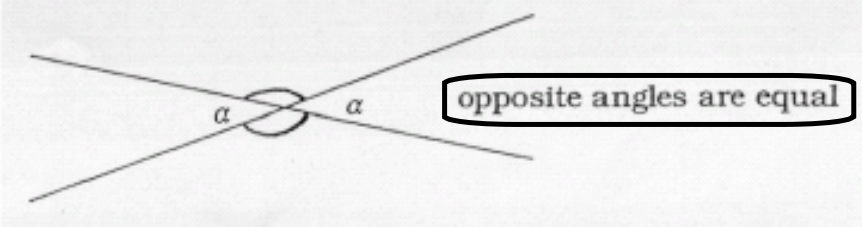
Examples:



Opposite Angle Theorem...

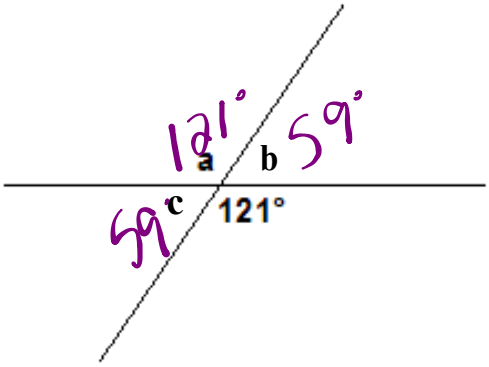
OAT

When 2 straight lines cross, 2 pairs of opposite angles are formed. Opposite angles are equal in size



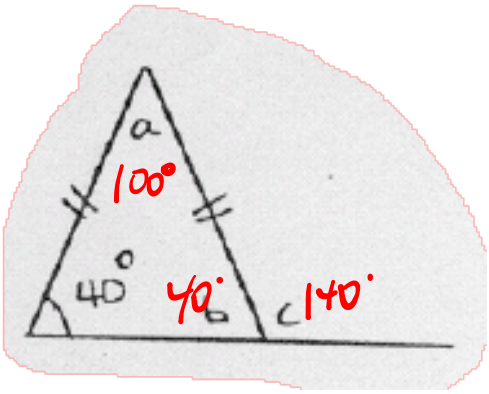
In geometry, angles or lines marked with the same symbol are the same size.

Example:

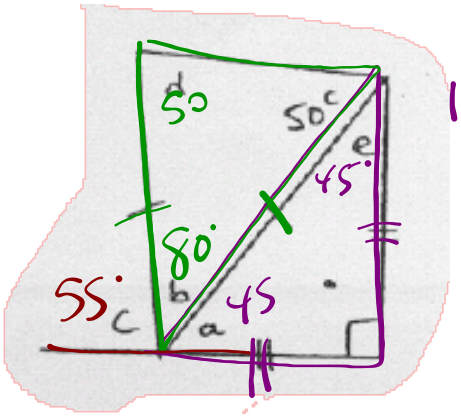


EXERCISE: Use geometry theroems to determine the measure of missing angles...

1)

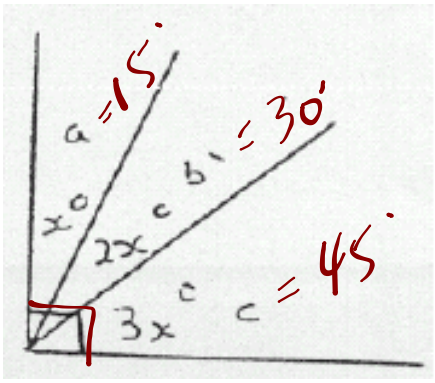


2)

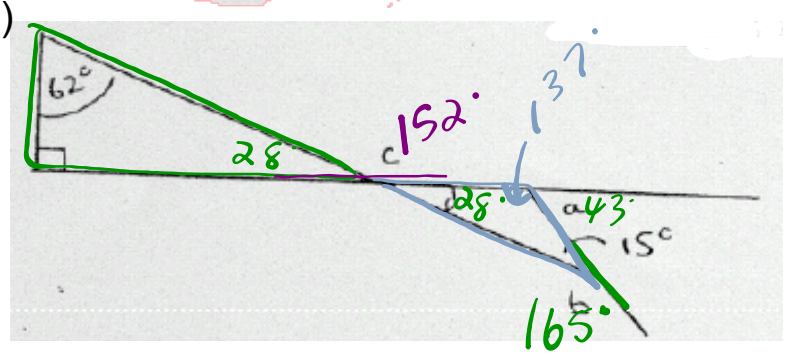


$\frac{180-90}{2}$

3)



4)



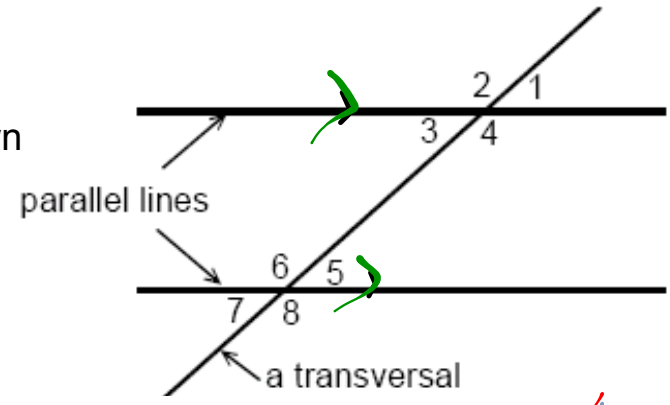
$x + 2x + 3x = 90°$

$\frac{6x}{6} = \frac{90°}{6}$

$x = 15°$

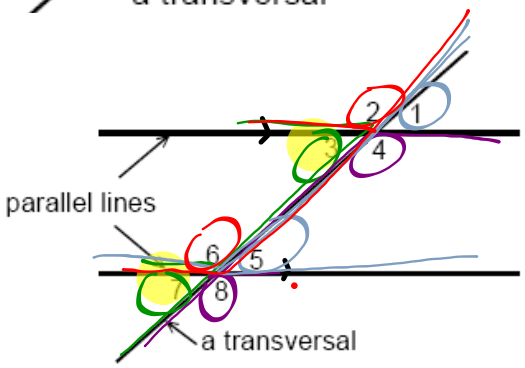
Parallel Line Theorems

A transversal is a third line that crosses two or more lines, as shown in the illustration to the right.



Corresponding Angles: CA

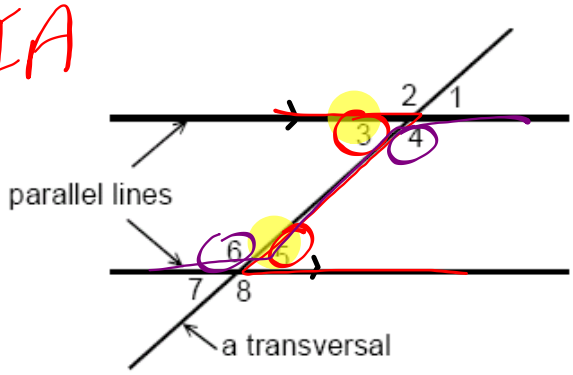
Pairs of angles on the same side of a transversal and the same side of the parallel lines



CORRESPONDING ANGLES ARE EQUAL

Alternate Interior Angles: AIA

Pairs of angles on the opposite sides of a transversal and between the parallel lines

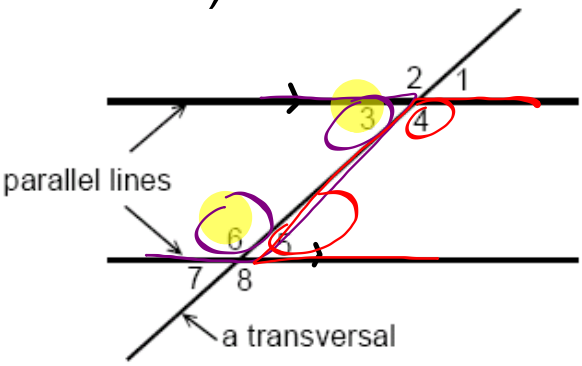


ALTERNATE INTERIOR ANGLES ARE EQUAL

Co-Interior Angles (Same-side Interior):

CIA

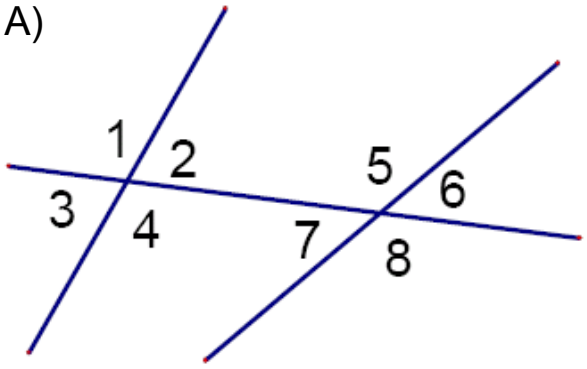
Pairs of angles on the same side of a transversal and between the parallel lines



CO-INTERIOR ANGLES ARE SUPPLEMENTARY

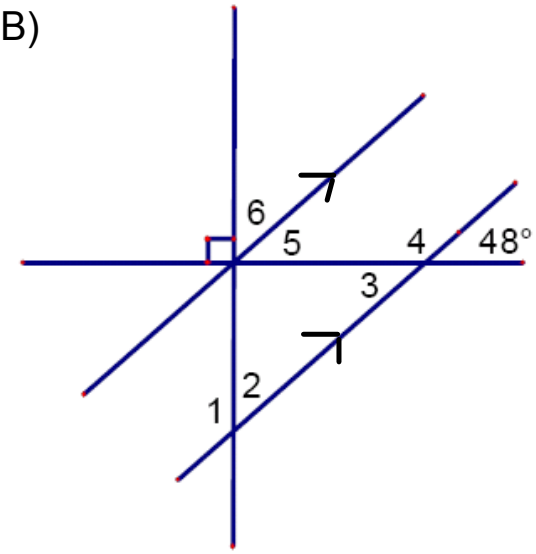
EXERCISE: Practice...

A)



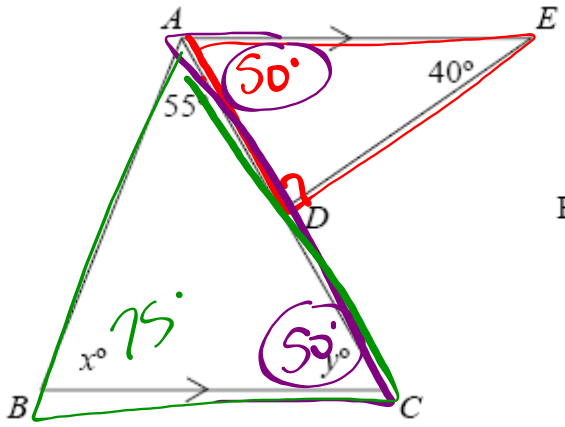
1. <3 and <_____ are corresponding angles.
2. <4 and <_____ are alternate interior angles.
3. <5 and <_____ are same-side interior angles.

B)



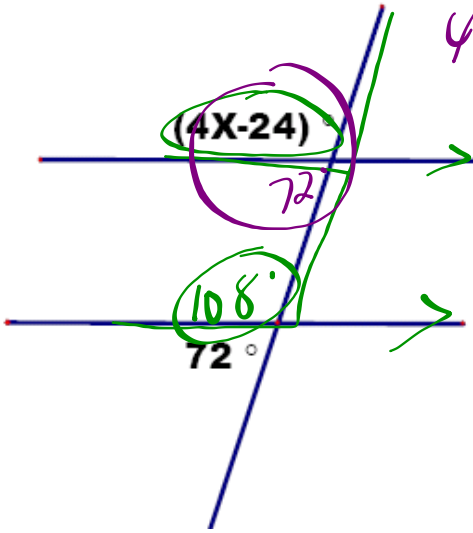
1. m<1 = _____
2. m<2 = _____
3. m<3 = _____
4. m<4 = _____
5. m<5 = _____
6. m<6 = _____

C)



Find $x°$ and $y°$.

D)



$4x - 24 + 72 = 180$

$4x + 48 = 180$

$4x = 180 - 48$

$4x = 132$

$4x - 24 = 108$

$4x = 108 + 24$

$\frac{4x}{4} = \frac{132}{4}$

$x = 33$

x = _____

Homework

Worksheet - Angle Properties.pdf

Attachments

Notes - Geometry Theorems.doc

Worksheet - Angle Properties.pdf