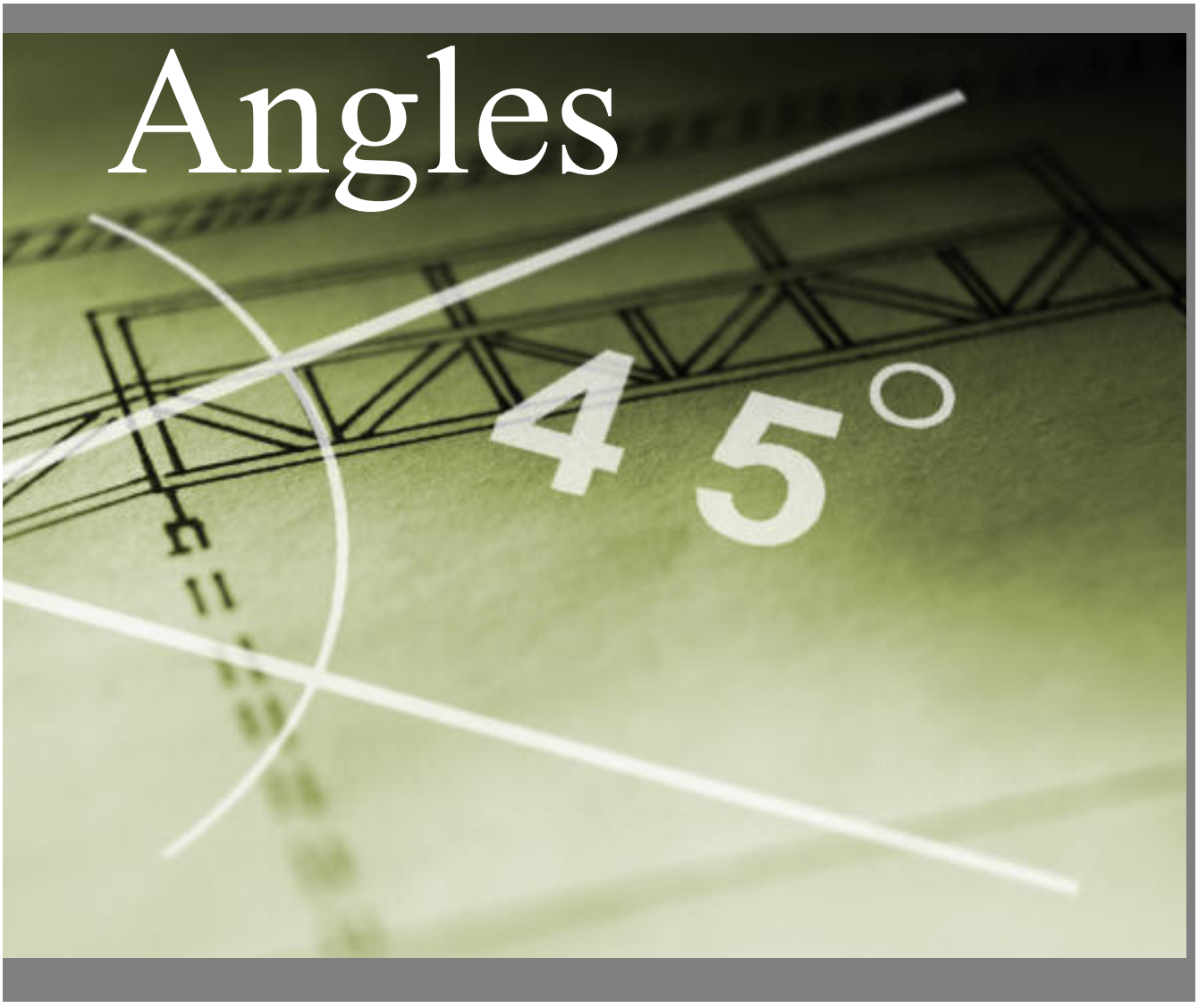
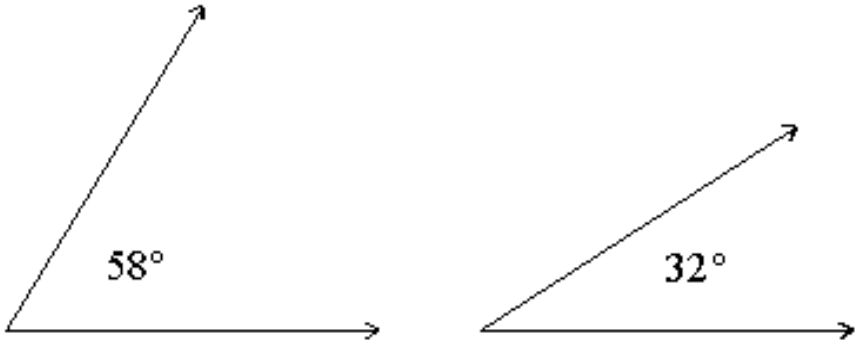

Angles
45°

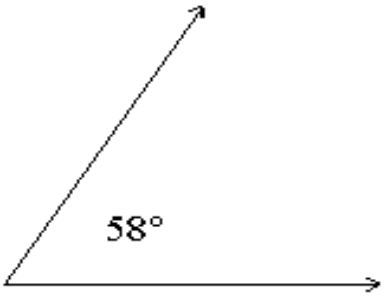
These two angles are complementary.

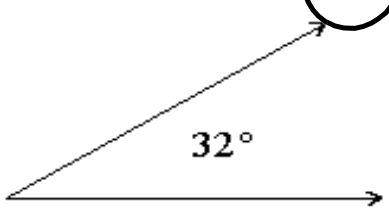


Why?

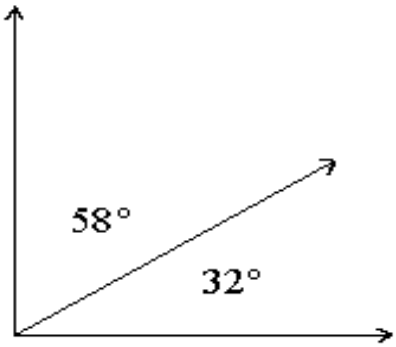
What a nice "**complement**".

These two angles are complementary.





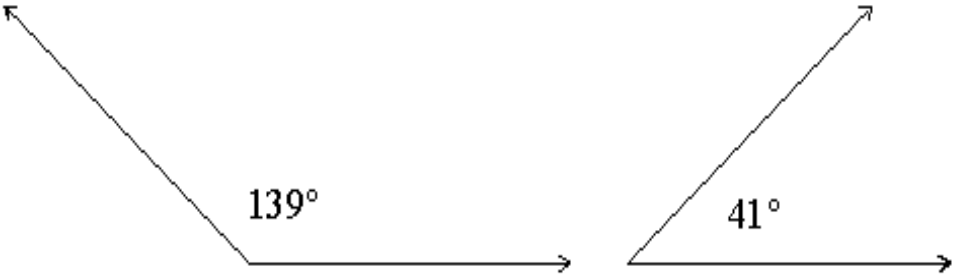
Note that these two angles can be "pasted" together to form a right angle!



$58^o+32^o=90^o$

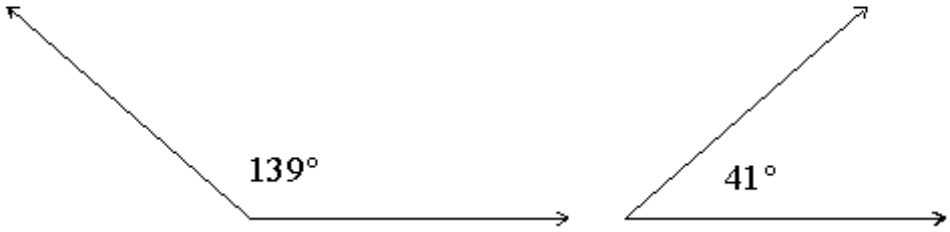
Complementary angles add up to 90^o.

These two angles are supplementary.

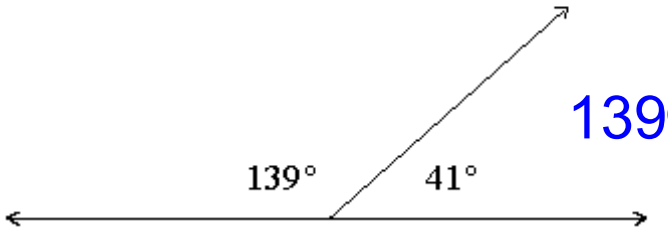


Why?

These two angles are supplementary.

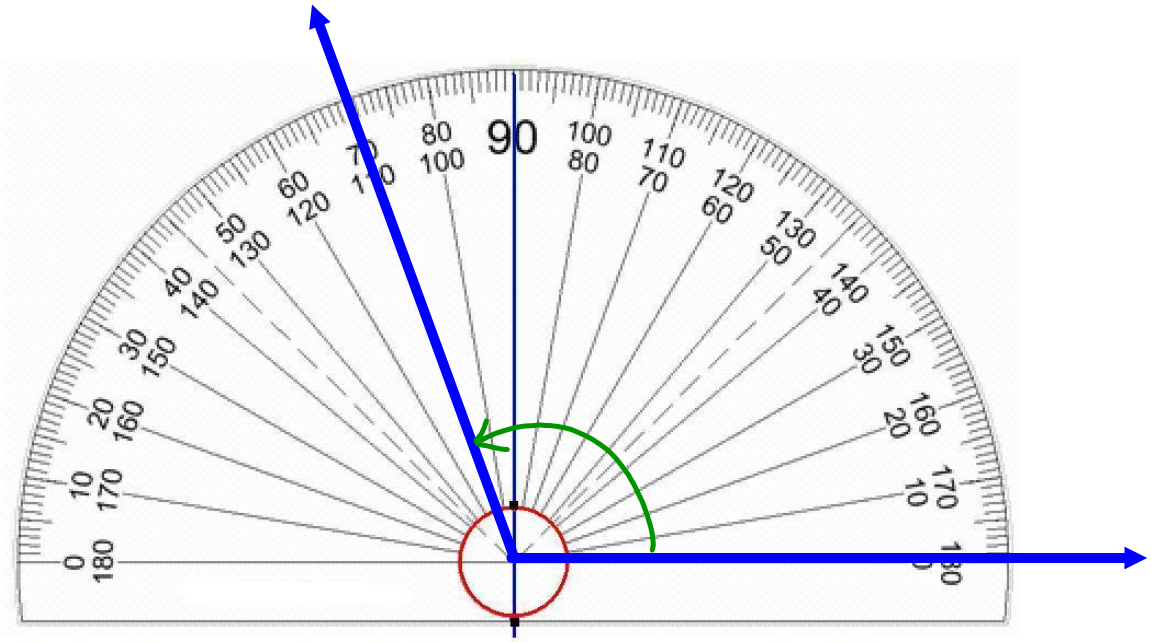


Note that these two angles can be "pasted" together to form a straight line!

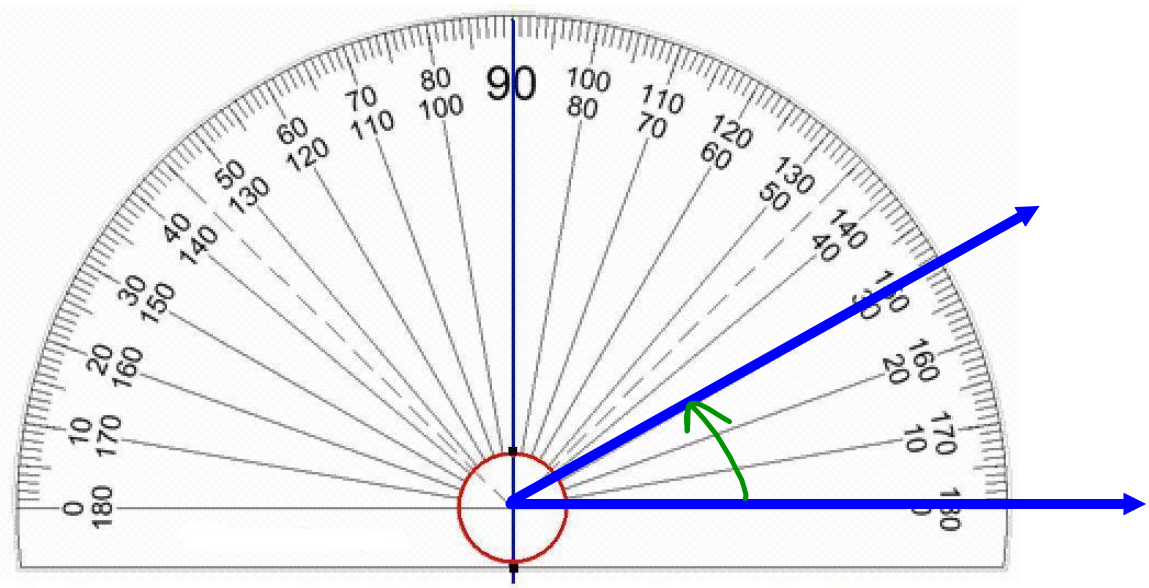


$139^o+41^o=180^o$

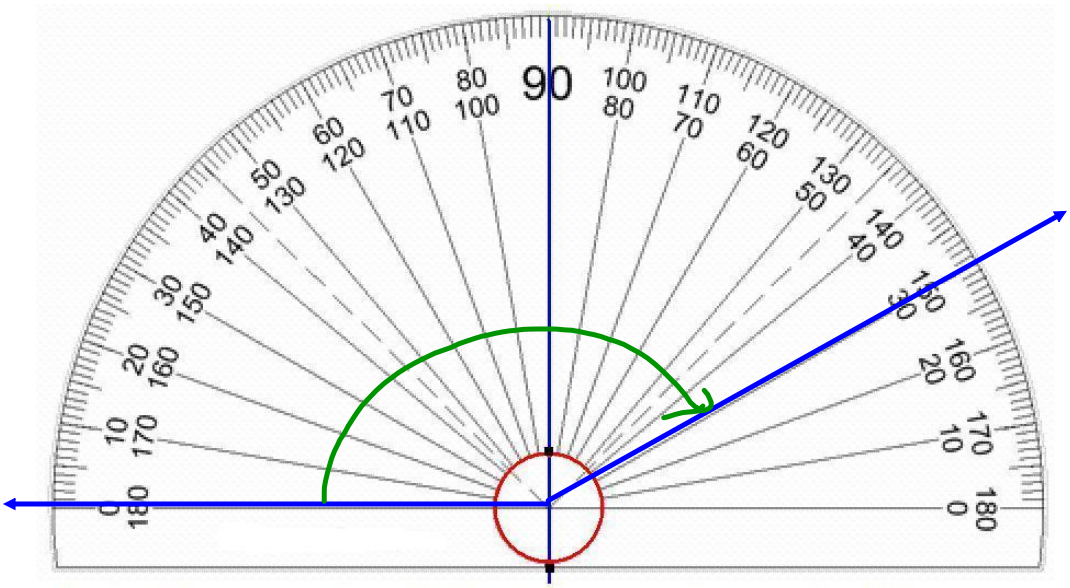
Supplementary angles add up to 180^o.

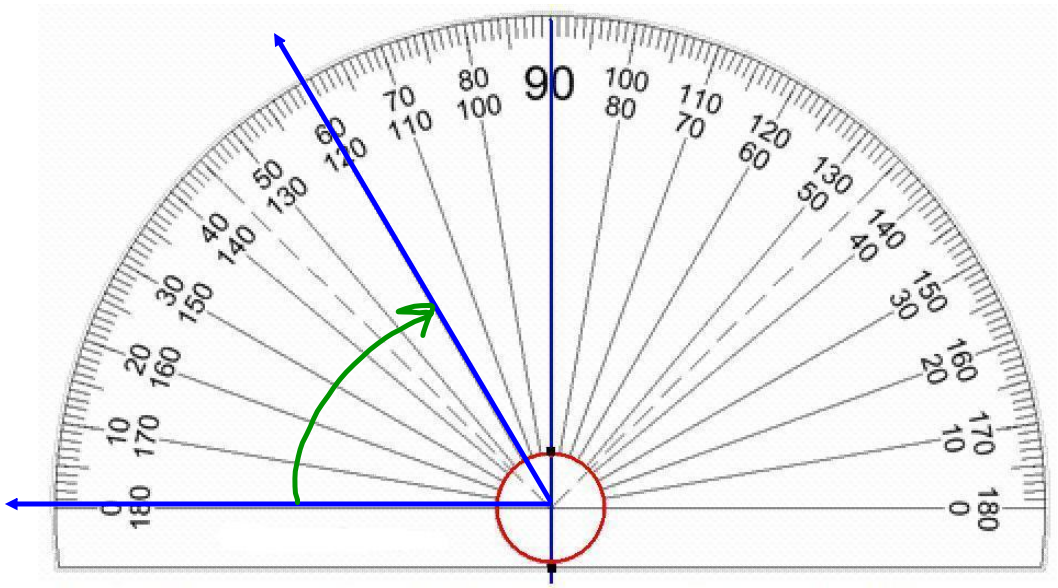


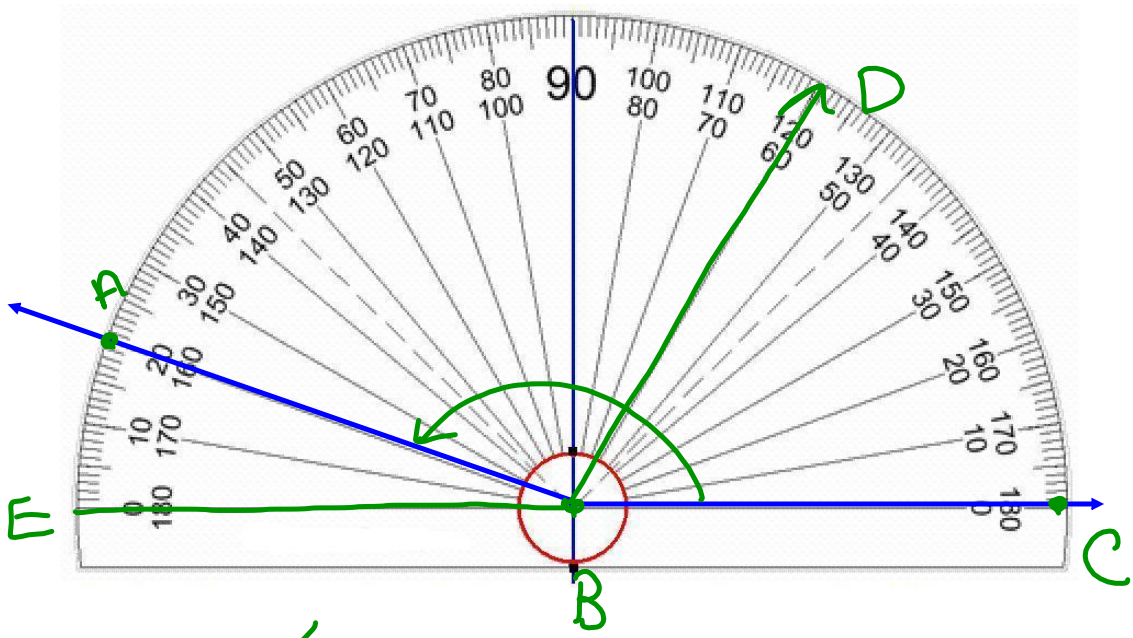
110°


90
80 100
70 110
60 120
50 130
40 140
30 150
20 160
10 170
0 180
100 80
110 70
120 60
130 50
140 40
150 30
160 20
170 10
180 0

30°

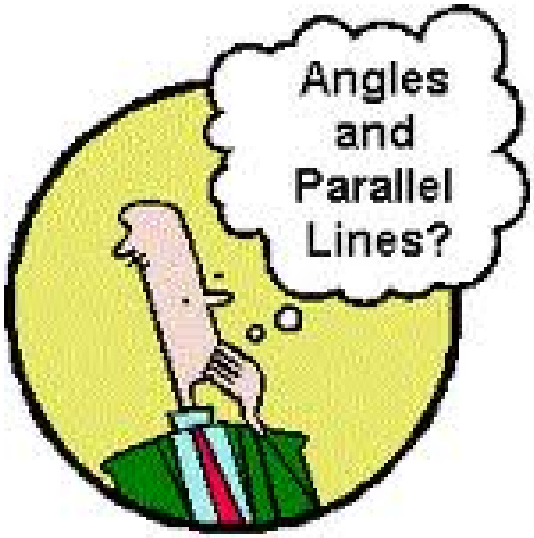

90
150°

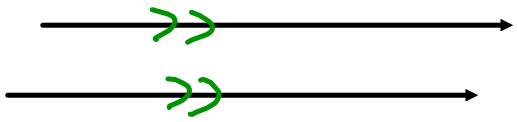

90
60°

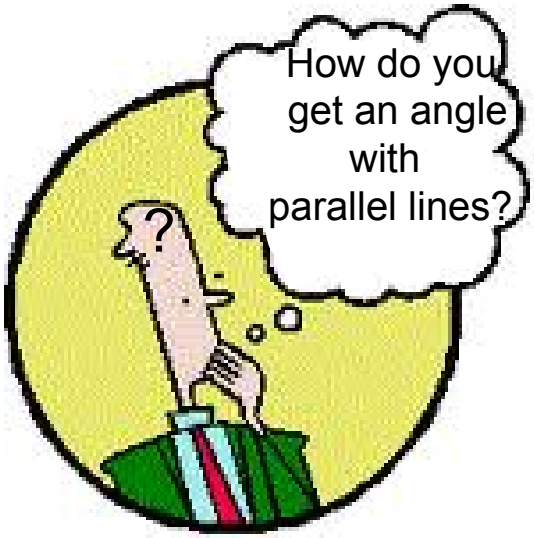


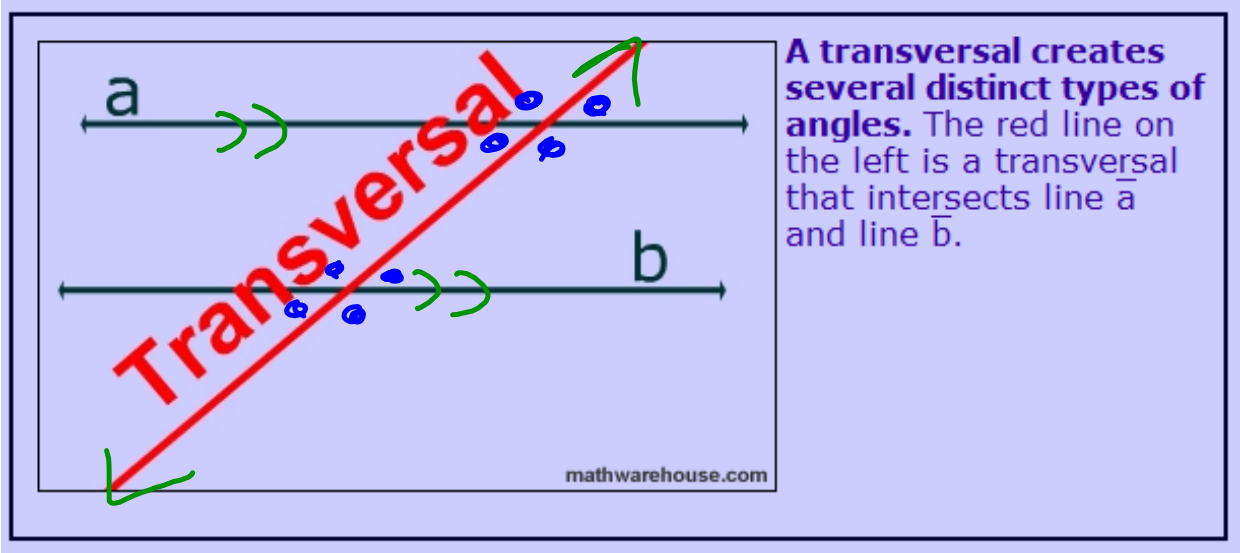
$\angle ABC$

$160°$


Angles
and
Parallel
Lines?

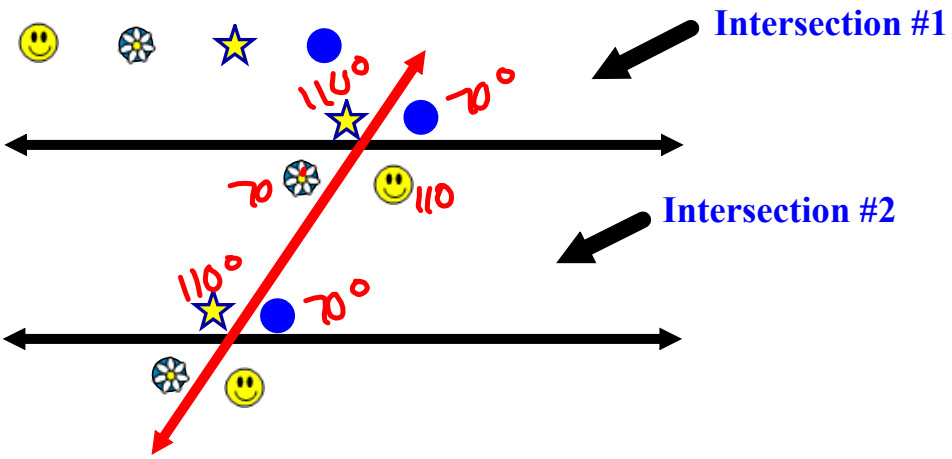



How do you get an angle with parallel lines?
?



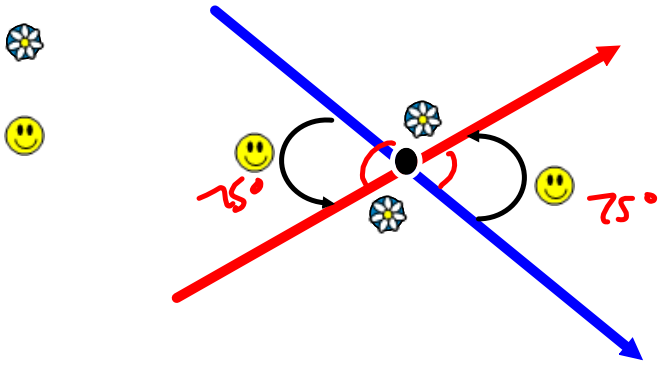
A transversal creates several distinct types of angles. The red line on the left is a transversal that intersects line $\overline{a}$ and line $\overline{b}$.

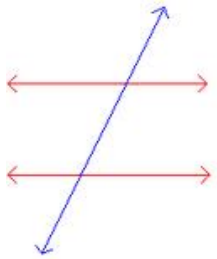
Corresponding Angles (F Rule)



Angles that occupy the same relative position in two different intersections.

Vertically Opposite Angles (X Rule)



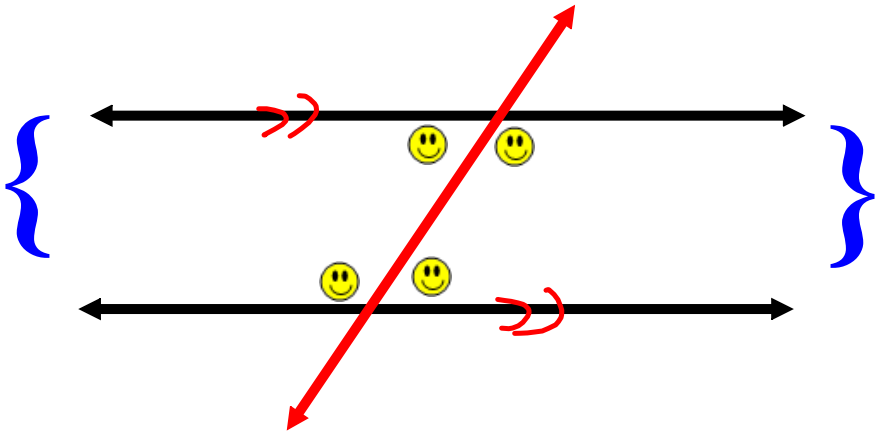


Only share a vertex!

thinking

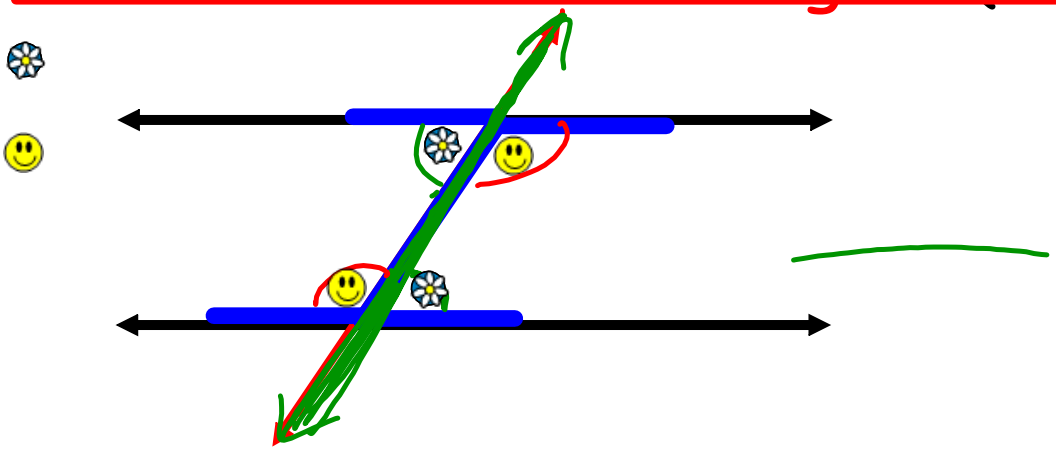
Vertically opposite angles are equal.

Interior Angles



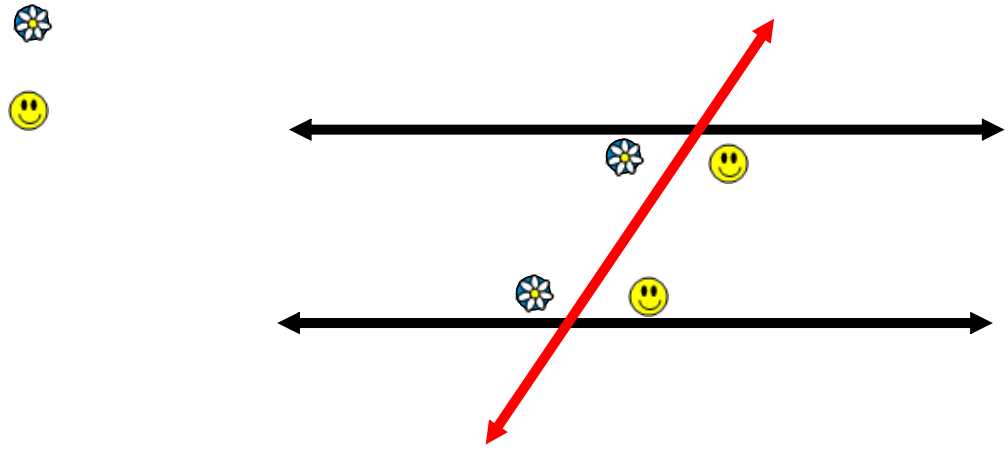
Angels between
two main lines are
Interior Angles

Alternate Interior Angles (Z Rule)



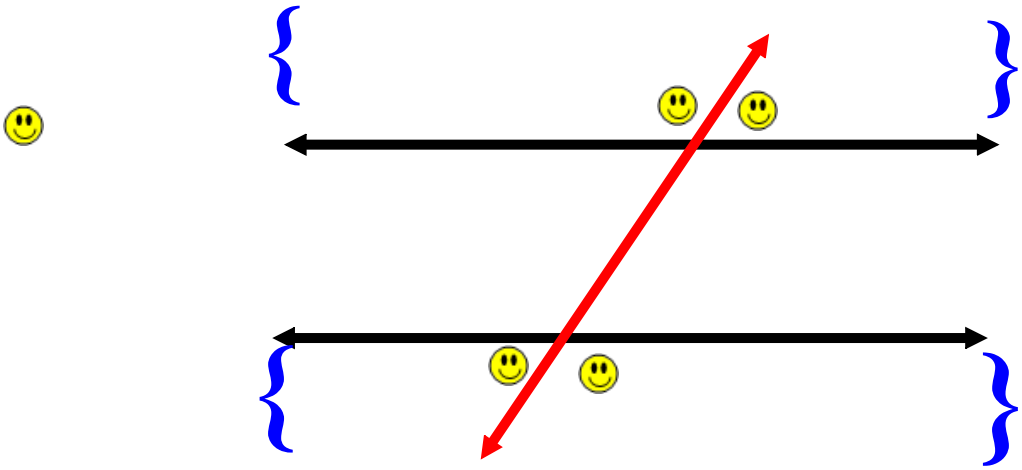
Alternate Interior angles are equal.

Co-Interior Angles - Same Side (C Rule)



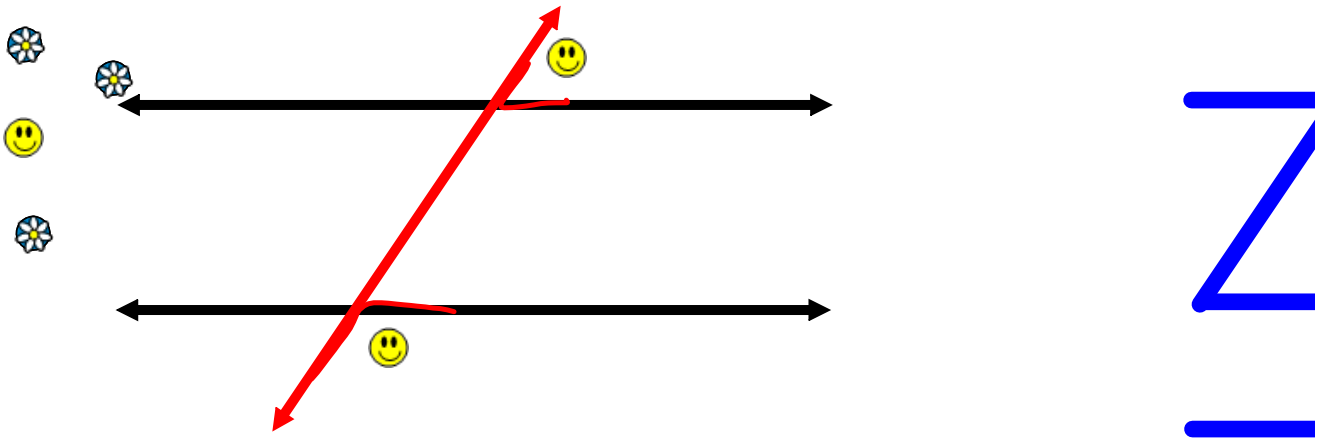
Interior angles (same side) add to 180°.

Exterior Angles



Angels outside the two main lines are **Exterior Angles**

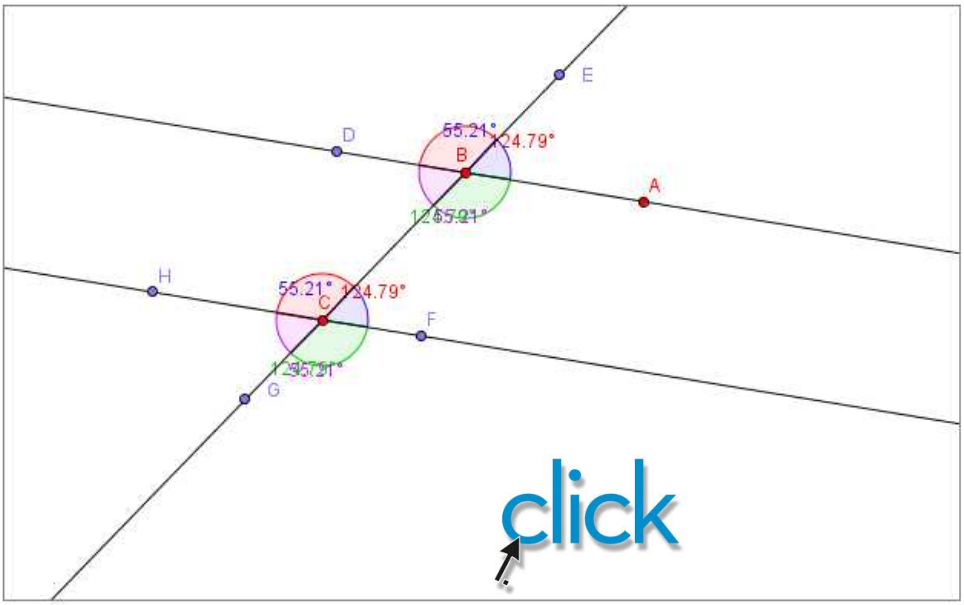
Alternate Exterior Angles (Z Rule)



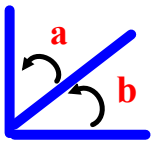
Alternate Exterior angles are equal.

Properties of Parallel Lines

Lines AB and FC are parallel. Line BC is a transversal of the two parallel lines AB and FC.



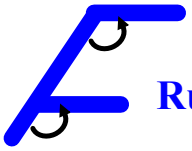
Let's Sum It Up



Rule - Complimentary angles a & b add up to 90 °

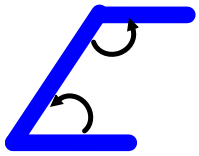
Rule - Supplimentary angles a & b add up to 180°

Rule - Vertically Opposite angles are equal



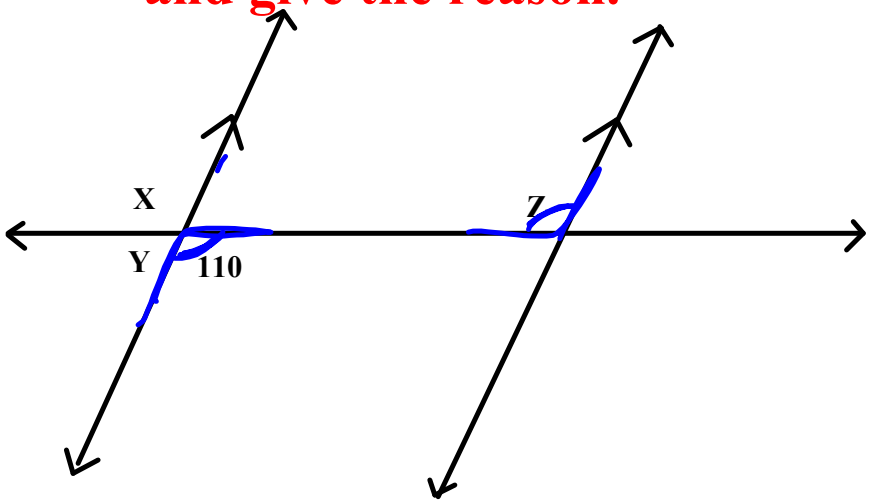
Rule - Corresponding angles are equal

Rule - Alternate Interior angles are equal
Alternate Exterior angles are equal



Rule - Co-interior angles add up to 180°
Co-Exterior angles add up to 180°

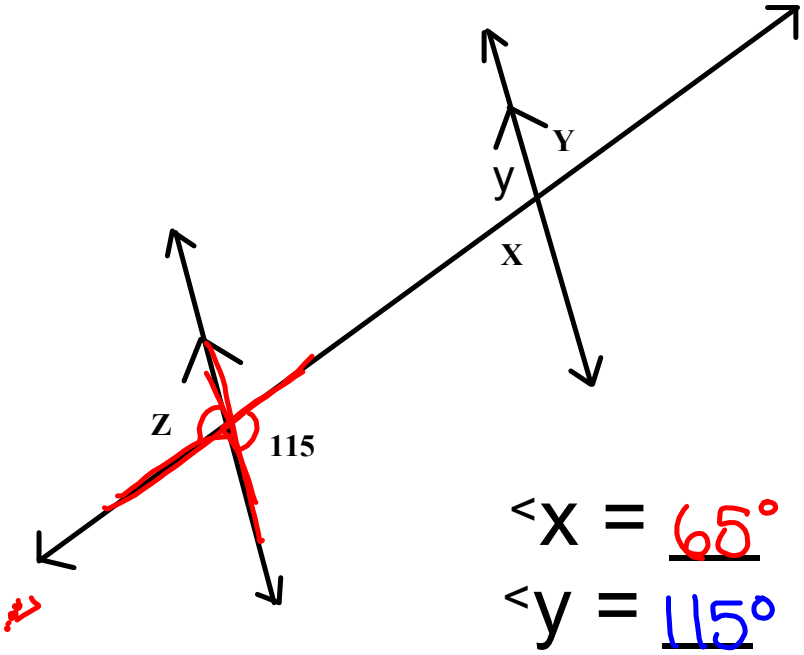
Determine the value of each unknown angle, and give the reason.



$\angle x =$ 110° Vertical Opp.

$\angle y =$ 70° Supplementary.

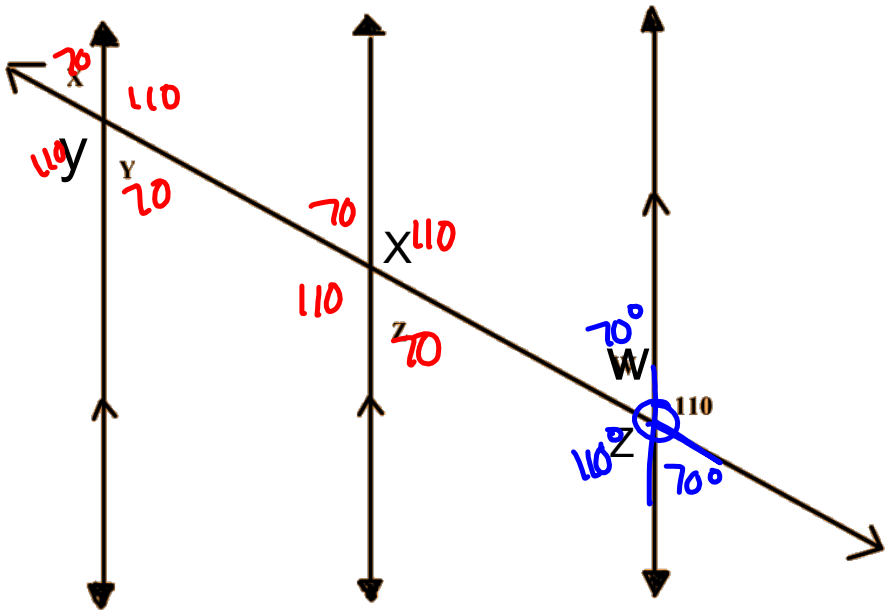
$\angle z =$ 110° Alt. Int.



$\angle x = 65°$ Co-Int.

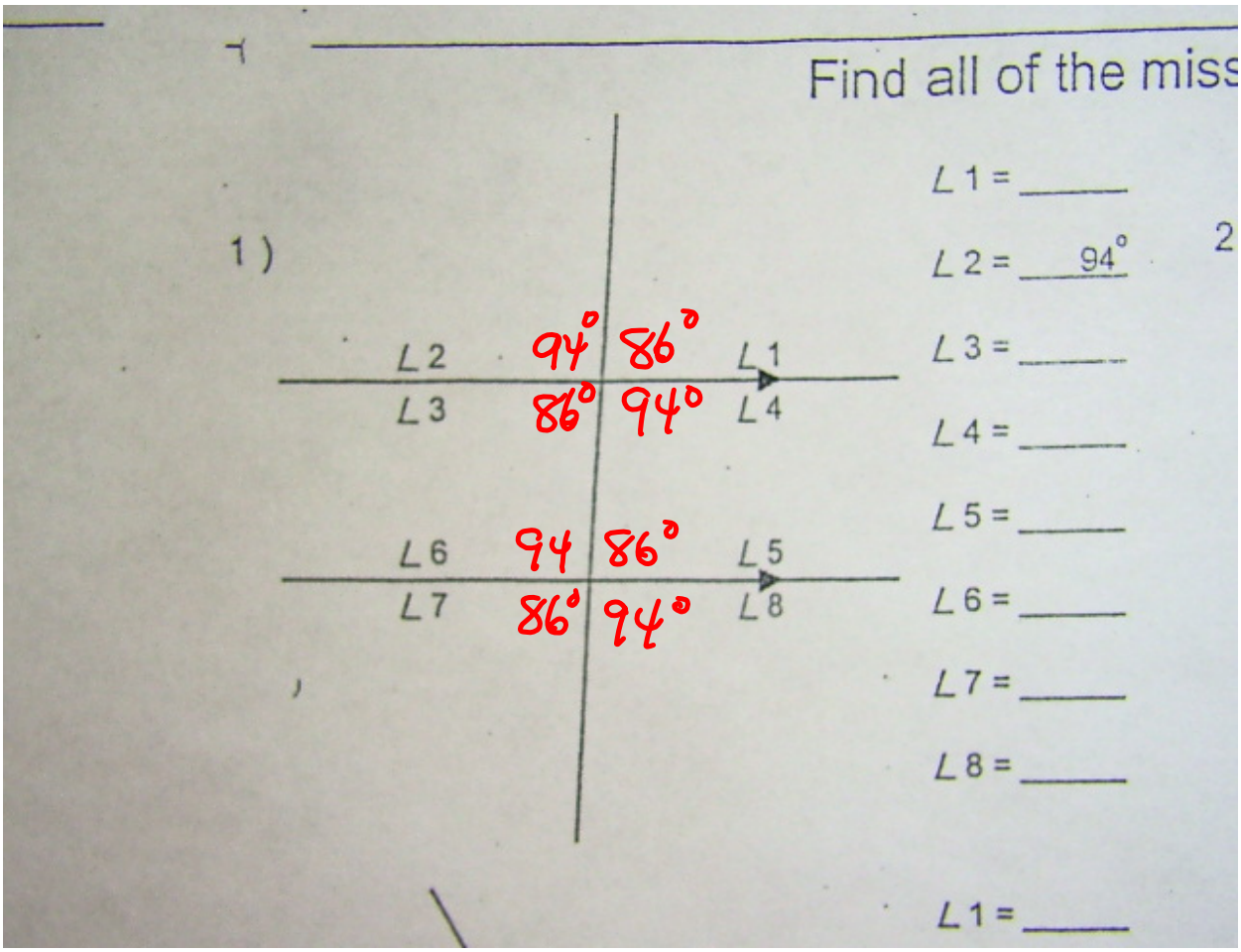
$\angle y = 115°$ Alt-Int.

$\angle z = 115°$ Vert Opp



$w =$ 70° Supplementary $x =$ 110° Corresponding

$y =$ 110° Alt Ext $z =$ 110° Vert Opp


Find all of the miss
1)
∠2
∠3
∠1
∠4
94°
86°
86°
94°
∠6
∠7
∠5
∠8
94
86°
86°
94°
∠1 = _____
∠2 = 94°
∠3 = _____
∠4 = _____
∠5 = _____
∠6 = _____
∠7 = _____
∠8 = _____
∠1 = _____