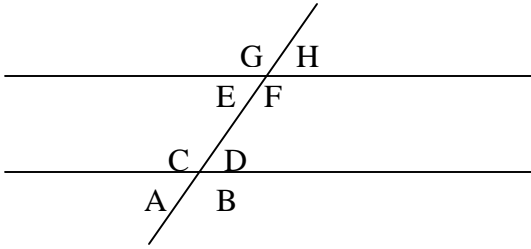


Geometric Principles in Basic Physics
 Gary Latshaw, Ph.D.

Parallel Lines and Transverse:



Parallel lines come about from multiple horizontal lines or direction of gravity (down).

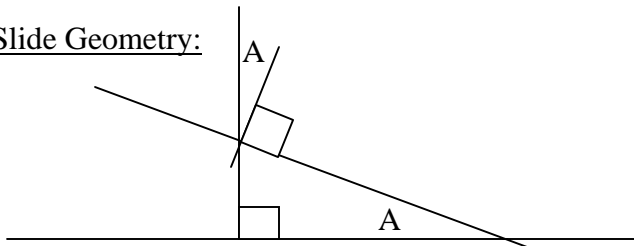
Corresponding angles of transverse are equal so: $A = E$; $B = F$; $C = G$; $D = H$

Opposite interior angles of transverse are equal so: $D = E$; $C = F$

Opposite exterior angles of transverse are equal so: $A = H$; $B = G$

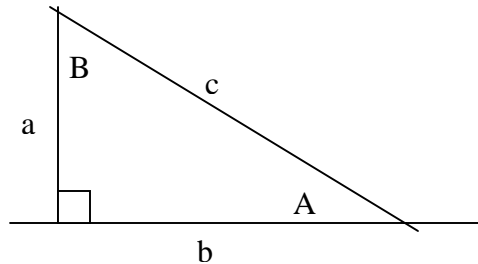
Vertical Angles: These are angles on opposite sides of two lines crossing. They are equal. Examples from the above diagram are $A = D$; $C = D$; $E = H$; and $F = G$.

Slide Geometry:



This results in the force of gravity on a slant producing a force into the board of $mg \cos(A)$ and along the board of $mg \sin(A)$

Right Triangle:



Sum of all angles so of ANY triangle is 180 degrees.

Pythagorean Theorem: $a^2 + b^2 = c^2$

$\sin A = a/c$
 $\cos A = b/c$
 $\tan A = a/b$

$A + B = 90$