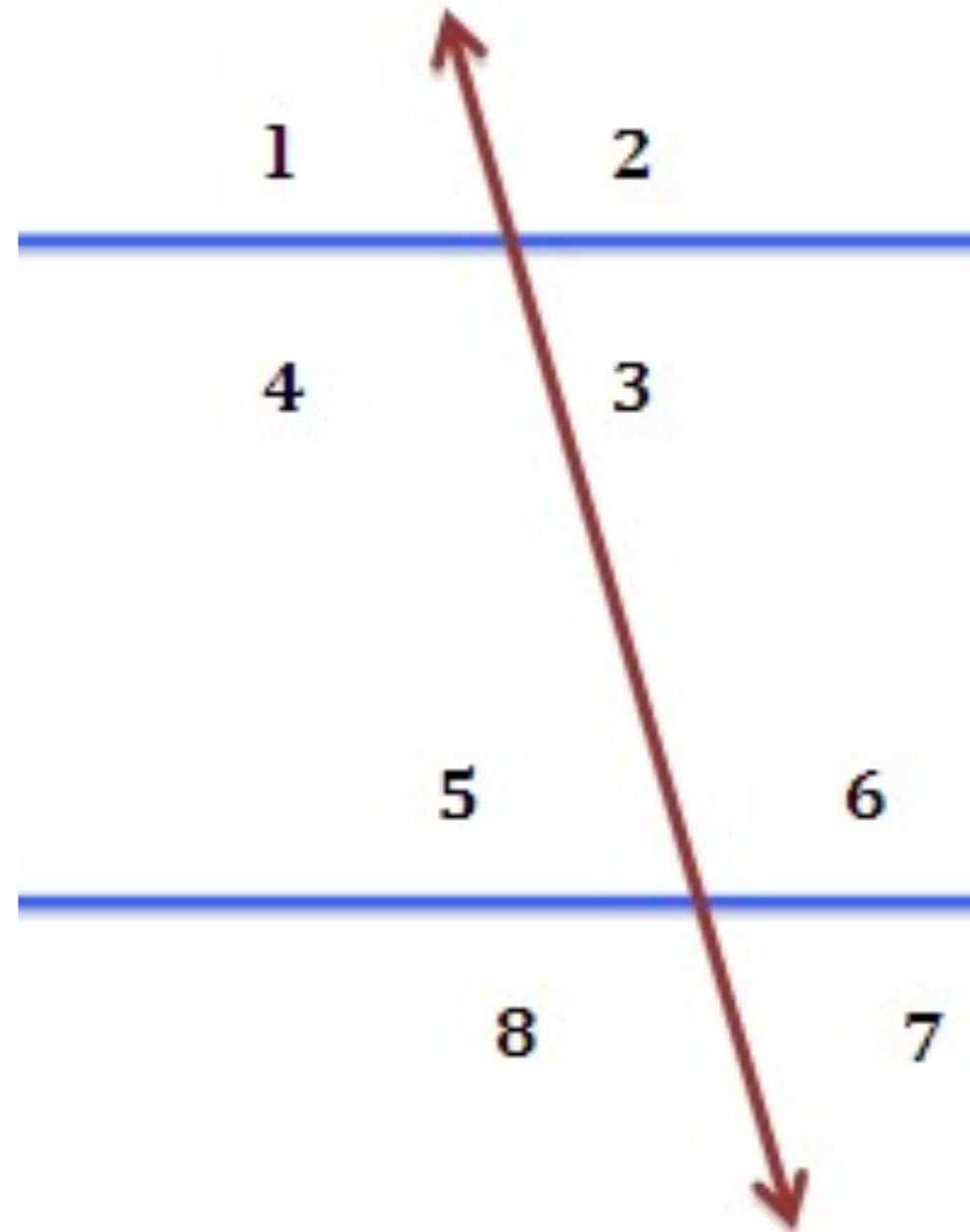
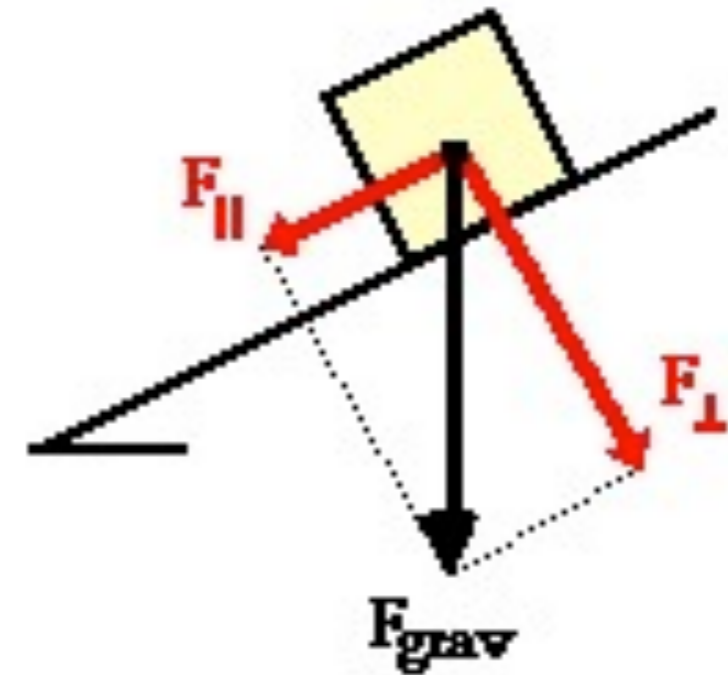
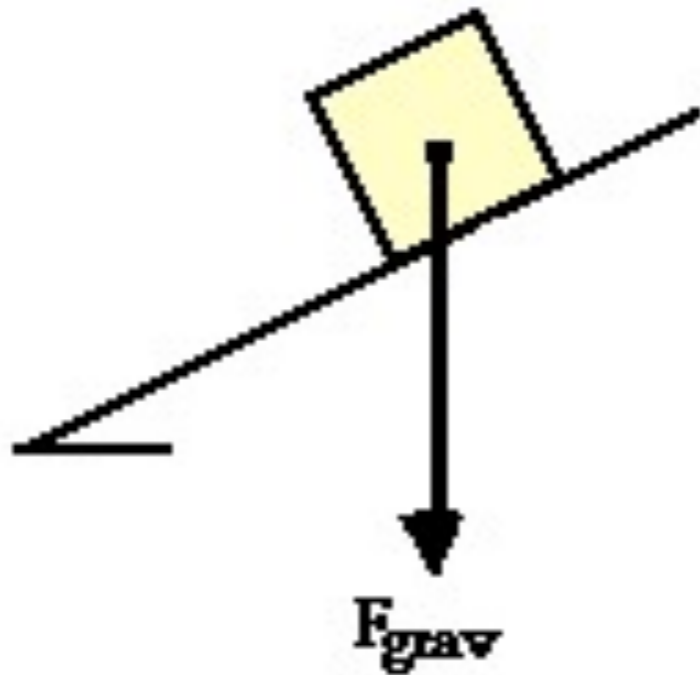


Do Now

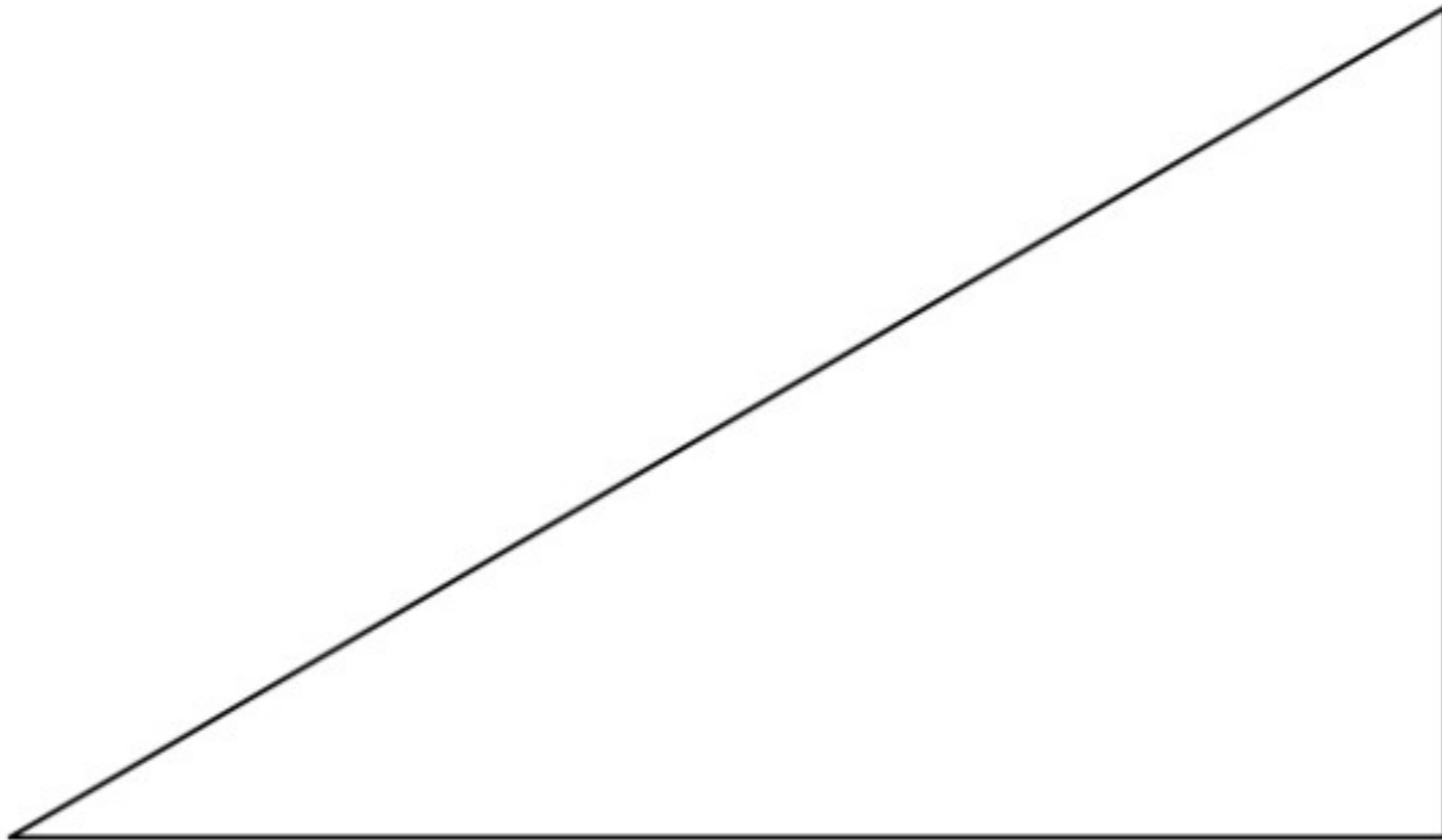
- If we assume that the blue lines are parallel and that angle 1 is 75° , find angles 2-8.





The force of gravity can be resolved into two components. Together, these two components replace the affect of the force of gravity.

Forces on an inclined plane



1 & 2 Axis

FORCES AND NEWTON'S LAWS OF MOTION

Inclined planes and friction

Inclined plane force components

Ice accelerating down an incline

Force of friction keeping the block stationary

Correction to force of friction keeping the block stationary

Force of friction keeping velocity constant

Intuition on static and kinetic

$x + 90 - \theta + 90 = 180$
 $x - \theta = 0$
 $x = \theta$

Soh cah toa

mass = m

$\frac{\|\vec{F}_{g\parallel}\|}{\|\vec{m}\vec{g}\|} = \sin \theta$

$\|\vec{F}_{g\parallel}\| = \|\vec{m}\vec{g}\| \sin \theta$

$\frac{\|\vec{F}_{g\perp}\|}{\|\vec{m}\vec{g}\|} = \cos \theta$

$\|\vec{F}_{g\perp}\| = \|\vec{m}\vec{g}\| \cos \theta$

$\vec{F}_g = m\vec{g}$

11:36 / 12:42

Figuring out the components of the force due to gravity that are parallel and perpendicular to the surface of an inclined plane

Options Share Info

<https://www.khanacademy.org/science/physics/forces-newtons-laws/inclined-planes-friction/v/inclined-plane-force-components>

A chicken stands on the ramp to its coop. If the chicken weighs 1.7kg and the angle of the ramp is 20° , what is the force of friction?



A 75kg skier moves at a constant velocity down a 30° slope. What is the force of friction?



55kg Luke Fox feeble grinds a 40° handrail. If Luke is moving at a constant velocity what is the coefficient of friction between the trucks and the handrail?





We Need Friction

Newton's 3rd Law

- For every action, there is an equal and opposite reaction.
- When a force is applied, an equal and opposite force is also applied.
- Let's look at a few examples.



Newton's 3rd Law



Do I need a helmet?