

Before you source the materials to build a ramp and follow the design, there are a few considerations.

DECIDE WHAT TYPE OF RAMP YOU WANT

There are plenty of websites that offer free ramp designs for download. If you're making a wooden ramp you'll need some heavy power tools – make sure you get help from a relative with the equipment you need.

STORAGE A ramp can't stay in the driveway or lounge all the time. Find a safe place to store it.

DESIGN IT How big do you want the jump? How much wood will you need? What sort of budget are you working with? Are you storing it indoors or out? Be smart and consult with your local skate shop – they'll give you invaluable advice.

SIZE COUNTS Work out how large you want the base (bottom) to be and then add a few centimetres at the base so you can have extra centimetres in depth at the top. Calculate the dimensions: how long, wide and tall will it be. If it's a jump ramp then it will probably be small.

SKETCH Draw a sketch on the plywood of the basic curve of your ramp and add an extra flat spot at the top, a little shorter and a little longer for distance, and taller for height.

START BUILDING

Helpful hints:

- Screws are better than nails – they'll stay in place longer.
- To better visualise your ramp, you can use 3D-modelling software to design your ramp and place a mock-up of it in your backyard. Check out Google's free Sketchup software.
- **Warning:** be sure you have a safe location and a sturdy ramp. Taking the time to make the ramp correctly will result in better performance and safety.



WORK IT OUT

From a graph point of view, you'll notice that the gradient is not exactly along a straight line, since it is curved slightly. We can determine a rough estimate of the gradient by looking at the length of the base (167,8 cm) and the height (59 cm).

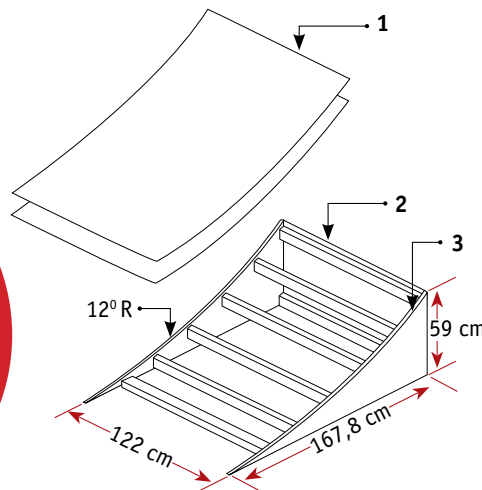
Using the formula for gradient:

$$m = \frac{\Delta x}{\Delta y} = \frac{\text{change in height}}{\text{change in length}}$$

$$m = \frac{59}{167,8} \text{ cm} \\ = 0,35 \text{ cm}$$

As you know, this is close to $\frac{1}{3}$, which is a gentle gradient – this makes sense when building a ramp. If the ramp was much higher, then the gradient would be steeper and this would make your launch more difficult. You can actually draw this ramp on a cartesian plane; this will help you to easily visualise it.

The *delta* symbol Δ is commonly used in mathematics to mean 'difference' or 'change'.



1. 2 x 200 cm-long by 122 cm-wide by 1,9 cm-thick sheets of plywood (and once these have been placed you can cut off the excess as more surface will be used for the hypotenuse of the right-angled triangle)
2. 7 x 118,2 cm-long by 8,9 cm-deep by 3,8 cm-wide wooden struts
3. 2 x 167,8 cm-long by 59 cm-wide by 0,95 cm-thick sheets of plywood

In reality, the ramp would take the shape of a parabola or hyperbola. Click to the Out There section at <www.hip2b2.com> or visit <www.ramprage.com>.