

Learner 5: PC 1.1 and 1.2

Learner 5: Meets Requirements
Intended for teacher use only

Ramp 2

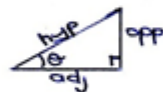
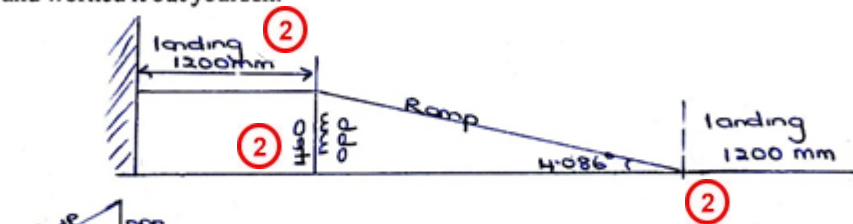
Block Course

Unit 5236

Design an accessible ramp

- 1 Select a building that needs a ramp to allow wheelchair access. Take the measurements and do the calculations to design a ramp for the entrance that meets the regulations. Design it to have the ideal slope (4.086°). Include all dimensions.

Remember: Get your supervisor to sign off that you have measured accurately, and worked it out yourself.



$$\tan 4.086 = \frac{460}{adj} \quad (3)$$

$$adj \times \tan 4.086 = \frac{460}{adj} \times adj$$

$$adj \times \frac{\tan 4.086}{\tan 4.086} = \frac{460}{\tan 4.086}$$

$$\tan 4.086 = 0.071435294$$

$$adj = 6439.39 \text{ mm}$$

$$adj = 6439 \text{ mm} \quad (5)$$

$$\sin 4.086 = \frac{460}{hyp} \quad (3)$$

$$hyp \times \sin 4.086 = \frac{460}{hyp} \times hyp$$

$$hyp \times \frac{\sin 4.086}{\sin 4.086} = \frac{460}{\sin 4.086}$$

$$\sin 4.086 = 0.071253721$$

$$hyp = 6455.80 \text{ mm} \quad (4)$$

Ramp needs to be at least 6456mm

Supervisor sign off. The candidate: Took the measurements independently using TAPE MEASURE PLUMBLINE (list equipment used) and the measurements were accurate. BD Worked out the problems independently. BD 25/10/14 (6)

Resource 'A'

Block course

Unit 5236

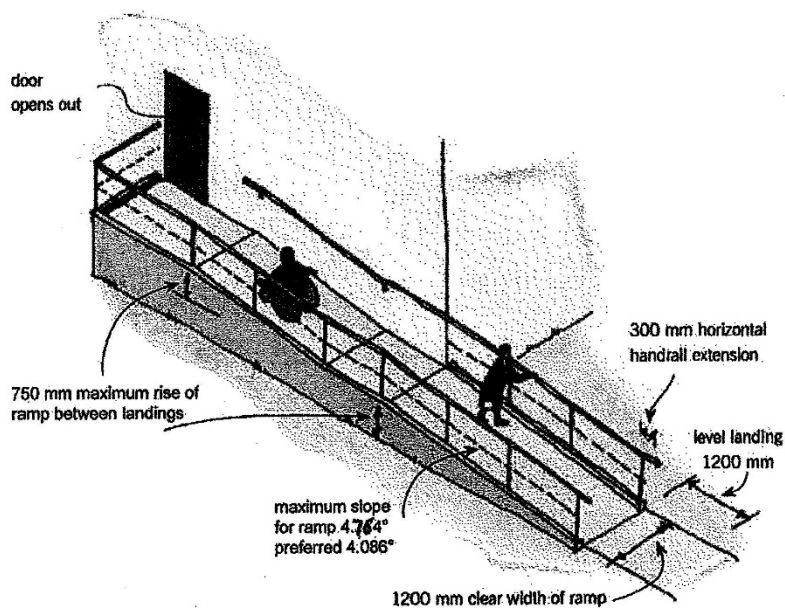
ACCESSIBILITY RAMP

NZ Building Code

- If it has a gradient of more than 1 in 20 (slope of 3.18°) it's a RAMP.
- (If it has a gradient of less than 1 in 20, it's a footpath.)

Regulations for a RAMP:

- Ideal gradient is 1 in 14 (slope of 4.086°)
- Maximum gradient is 1 in 12 (slope of 4.764°)
- Ramp must be 1200mm wide
- Maximum rise of ramp between landings is 750mm
- Must have level landings (of 1200mm width & length) at top and bottom of ramp



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