

What Is Universal Design?

Worksheet

Universal design means designing spaces, products, and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design - accessibility for everyone, not just people with disabilities.

Questions

1. What is the maximum slope allowed for an ADA-compliant ramp?
A) 1:8
B) 1:12
C) 1:20
D) 1:4
2. Who is credited with founding the universal design movement?
A) Le Corbusier
B) Ron Mace
C) Frank Lloyd Wright
D) Zaha Hadid
3. What is the minimum clear width required for an accessible doorway under the ADA?
A) 24 inches
B) 28 inches
C) 32 inches
D) 36 inches
4. How many principles make up the Universal Design framework?
A) 5
B) 6
C) 7
D) 10
5. A ramp needs to rise 24 inches to reach a raised entry. What is the minimum ramp length under ADA (max slope 1:12)?
6. A doorway must provide a 32-inch clear width for wheelchair access. If the door swing reduces clearance by 2 inches, how wide should the rough opening be specified?
7. An accessible parking space requires a 96-inch-wide stall plus a 60-inch access aisle. What is the total width for one accessible space with an adjacent aisle?
8. Define: What is universal design?
9. Define: Maximum ADA ramp slope?
10. Define: Minimum clear width for an accessible doorway?

Answer Key

1. B) 1:12 - ADA limits ramps to a 1:12 slope - 1 inch of rise per 12 inches of run.
2. B) Ron Mace - Architect Ron Mace coined 'universal design' and founded the Center for Universal Design at NC State.
3. C) 32 inches - The ADA requires at least 32 inches of clear width at doorways.
4. C) 7 - There are 7 Principles of Universal Design, published in 1997.
5. Max slope = 1:12 Run = Rise 12 = 24 12 = 288 in (24 ft) So the ramp must be at least 24 feet long.
6. Required clear width = 32 in Add swing reduction = 32 + 2 = 34 in Specify a 34-inch door opening to guarantee 32 in clear.
7. Stall width = 96 in Aisle width = 60 in Total = 96 + 60 = 156 in (13 ft)
8. Design usable by the widest range of people without adaptation, coined by Ron Mace in the 1990s.
9. 1:12 (one inch of rise for every 12 inches of run), about 4.8.
10. 32 inches (813 mm), measured with the door open 90.

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