201: Health and safety in building services engineering  
**Worksheet 12: Access equipment**

**Answer guide**

1. **State five things you should do to ensure ladders are used safely.**
   * + - **Ladders should be inspected before every use.**
       - **Ladders must only be used on firm, hard ground.**
       - **Never try to raise an extended ladder – extension ladders must be raised a section at a time.**
       - **Don’t raise a heavy ladder on your own – two people should raise and lower ladders.**
       - **Ladders should stand at an angle of 75° for safe use – ratio of 1:4 (1 out for every 4 up).**
       - **Ladders over 3m long must be secured.**
       - **Ladders should extend at least 5 rungs (or 1.07m) above the landing platform.**
       - **When moving ladders of more than a few metres, they should be lowered and carried on the shoulders by two people – one on either end.**
       - **Never overreach when working on a ladder.**

(Four from five)

1. **State five checks you should make before using a ladder.**

Check for:

* **missing, damaged or worn anti-slip feet on metal and fibreglass ladders/stepladders**
* **items stuck in or adhered to the feet, such as stones, grease, dirt or other debris**
* **mud, grease, oil or wet paint either on the rungs, stiles, steps or platform**
* **cracks, splits, bends or warps in the rungs, stiles, steps or platform**
* **missing, broken or weakened rungs or steps**
* **missing or damaged tie rods**
* **cracked or damaged welds, missing or loose screws or rivets, corrosion, sharp edges, dents**
* **painted surfaces.**

(Four from five)

1. **State five requirements for scaffolding.**

* **Tubes must be straight.**
* **Tubes and fittings must be undamaged and free from corrosion.**
* **The ground the scaffold is placed on must be firm and even.**
* **Base plates must be used. Adjustable base plates can be used on ground which has different levels.**
* **Sole plates must be used to provide even weight distribution if the tower is to be used on soft ground.**
* **Foot ties or plan bracing must be fitted as low as possible.**
* **Working platforms must be close boarded.**
* **Overhang boards must not exceed four times the thickness of the boards and must not be less than 50mm past the support.**
* **Working platforms more than 2 metres high must have toe boards fitted at least 150mm high and guard rails between 920mm and 1,150mm high.**

(Four from five)