203: Electrical installations technology  
**Worksheet 13: Conduit systems**

**Answer guide**

Try the following problems.

1. **State three advantages of steel conduit.**

Select three from:

**affords conductors good mechanical protection**

**permits easy rewiring**

**minimises fire risks**

**can be utilised as the circuit protective conductor.**

1. **State three disadvantages of steel conduit.**

**Under certain conditions, moisture is liable to form on the inside of the conduit**

**Expensive compared with some other systems**

**Liable to corrosion when subject to acid, alkali and other fumes**

1. **List four sizes (diameters) of steel conduit.**

**16mm**

**20mm**

**25mm**

**32mm**

1. **List three specialist tools needed to work on steel conduit.**

**Bending machine**

**Formers**

**Stocks and dies**

1. **State three advantages of PVC conduit.**

Select three from:

**light in weight and easy to handle**

**easy to saw, cut and clean**

**simple to form and bend**

**does not require painting**

**minimal condensation due to low thermal conductivity in walls**

**speed of erection**

**excellent electrical and fire resistant properties.**

1. **State three disadvantages of PVC conduit.**

**Care must be taken when gluing joints to avoid forming a barrier across the inside of the conduit**

**If insufficient adhesive is used, the joints may not be waterproof**

**PVC expands around five times as much as steel and this expansion must be allowed for**

1. **The following cables are to be drawn into a 3m length of conduit straight run:**

* **6 off stranded 1.5mm2**
* **6 off stranded core 2.5mm2**

**Calculate the conduit size required to accommodate these cables.**

**6 x 31 = 186, 6 x 43 = 258**

**186 + 258 = 444 20mm Conduit (460)**

1. **The following cables are to be drawn into a 4m length of conduit with 1 bend:**

* **9 off stranded core 1.5mm2**
* **6 off stranded core 2.5mm2**
* **3 off stranded 6mm2.**

**Calculate the conduit size required to accommodate these cables.**

**9 x 22 = 198, 6 x 30 = 180, 3 x 58 = 174**

**198 + 180 + 174 = 552 32mm Conduit (818)**