**Week 3 Exercise 17, 18, 19 Worksheet**

Numerous online conversion charts and calculators are available for converting between AWG and metric sizing. Research some of these and use them to answer the following questions.

**Exercise 17**

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| 1. What is the diameter of 12 AWG in mm? |
| 1. What is the cross-sectional area of 12 AWG in mm2 ? |
| 1. What is the nearest ASW gauge number for a 35mm2 wire? |
| 1. What diameter is 2.5 mm2 wire? |

**Exercise 18**

Refer to the ECP 51 - New Zealand Electrical Code of Practice for Homeowner/ Occupier's Electrical Wiring Work in Domestic Installations (NZECP 51:2004) to find the correct wire size to use for these types of circuit.

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| **Type of Circuit** | **Wire Size (mm2)** |
| Lighting |  |
| 10A socket-outlets |  |
| Permanently connected appliances |  |
| Mains cable |  |

**Cable Label Exercise**

1. Explain what information is included on this cable label:

|  |  |  |
| --- | --- | --- |
| Cu TPS 2.5mm2 3C+E V90 750V | | |
| *Cu* | = |  |
| *TPS* | = |  |
| *3C* | = |  |
| *+E* | = |  |
| *V90* | = |  |
| *750V* | = |  |

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| 1. What type of installation would this cable be suitable for? |

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| 1. When would you choose Cu TPS 1mm2 2C+E V90 750V? |

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| 1. Suggest a cable that could be used for high load installations such as electric cookers and ovens. |

**Exercise 19**

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| Explain why 2.1 x 10-6 m2 is equal to 2,100 mm2. |