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| **Worksheet for Lab on WheatStone Bridge**  | **Name** |  |
|  |  |  |
|  | **Date** |  |

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|  | **Partner #1** |  |
|  |  |  |
|  | **Partner #2** |  |

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| **Experiment #1 – Unknown #1:** |
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| **Complete and fill in Data Table 01** |
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| --- | --- | --- | --- |
|  |  | $$X\_{min}\left(Ω\right)$$ |  |
|  |  | $$X\_{max}\left(Ω\right)$$ |  |
| **Unknown #1** |  | **Determined Value** $\left(Ω\right)$ |  |
| **Unknown Colors** |  | **Nominal Value** $\left(Ω\right)$ |  |
|  |  |  |  |
| **Unknown on Left** |  |  |  |
| $$R\_{lowest} \left(Ω\right)$$ |  | $$L\_{lowest} \left(cm\right)$$ |  |
| $$R\_{highest} \left(Ω\right)$$ |  | $$L\_{highest} \left(cm\right)$$ |  |
| $$R\_{average} \left(Ω\right)$$ |  | $$L\_{average} \left(cm\right)$$ |  |
| $$ ΔR \left(Ω\right)$$ |  | $$ΔL \left(cm\right)$$ |  |
|  |  |  |  |
| $$X\_{left} \left(Ω\right)$$ |  | $$ΔX\_{left} \left(Ω\right)$$ |  |
|  |  |  |  |
| **Unknown on Right** |  |  |  |
| $$R\_{lowest} \left(Ω\right)$$ |  | $$L\_{lowest} \left(cm\right)$$ |  |
| $$R\_{highest} \left(Ω\right)$$ |  | $$L\_{highest} \left(cm\right)$$ |  |
| $$R\_{average} \left(Ω\right)$$ |  | $$L\_{average} \left(cm\right)$$ |  |
| $$ ΔR \left(Ω\right)$$ |  | $$ΔL \left(cm\right)$$ |  |
|  |  |  |  |
| $$X\_{right} \left(Ω\right)$$ |  | $$ΔX\_{right} \left(Ω\right)$$ |  |
|  |  |  |  |
| $$X\_{average} \left(Ω\right)$$ |  | $$ΔX\_{average} \left(Ω\right)$$ |  |

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| **Experiment #2 – Unknown #2:** |
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| **Complete and fill in Data Table 02** |
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|  |  | $$X\_{min}\left(Ω\right)$$ |  |
|  |  | $$X\_{max}\left(Ω\right)$$ |  |
| **Unknown #2** |  | **Determined Value** $\left(Ω\right)$ |  |
| **Unknown Colors** |  | **Nominal Value** $\left(Ω\right)$ |  |
|  |  |  |  |
| **Unknown on Left** |  |  |  |
| $$R\_{lowest} \left(Ω\right)$$ |  | $$L\_{lowest} \left(cm\right)$$ |  |
| $$R\_{highest} \left(Ω\right)$$ |  | $$L\_{highest} \left(cm\right)$$ |  |
| $$R\_{average} \left(Ω\right)$$ |  | $$L\_{average} \left(cm\right)$$ |  |
| $$ ΔR \left(Ω\right)$$ |  | $$ΔL \left(cm\right)$$ |  |
|  |  |  |  |
| $$X\_{left} \left(Ω\right)$$ |  | $$ΔX\_{left} \left(Ω\right)$$ |  |
|  |  |  |  |
| **Unknown on Right** |  |  |  |
| $$R\_{lowest} \left(Ω\right)$$ |  | $$L\_{lowest} \left(cm\right)$$ |  |
| $$R\_{highest} \left(Ω\right)$$ |  | $$L\_{highest} \left(cm\right)$$ |  |
| $$R\_{average} \left(Ω\right)$$ |  | $$L\_{average} \left(cm\right)$$ |  |
| $$ ΔR \left(Ω\right)$$ |  | $$ΔL \left(cm\right)$$ |  |
|  |  |  |  |
| $$X\_{right} \left(Ω\right)$$ |  | $$ΔX\_{right} \left(Ω\right)$$ |  |
|  |  |  |  |
| $$X\_{average} \left(Ω\right)$$ |  | $$ΔX\_{average} \left(Ω\right)$$ |  |

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| **Experiment #3 – Unknown #3:** |
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| **Complete and fill in Data Table 03** |
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| --- | --- | --- | --- |
|  |  | $$X\_{min}\left(Ω\right)$$ |  |
|  |  | $$X\_{max}\left(Ω\right)$$ |  |
| **Unknown #3** |  | **Determined Value** $\left(Ω\right)$ |  |
| **Unknown Colors** |  | **Nominal Value** $\left(Ω\right)$ |  |
|  |  |  |  |
| **Unknown on Left** |  |  |  |
| $$R\_{lowest} \left(Ω\right)$$ |  | $$L\_{lowest} \left(cm\right)$$ |  |
| $$R\_{highest} \left(Ω\right)$$ |  | $$L\_{highest} \left(cm\right)$$ |  |
| $$R\_{average} \left(Ω\right)$$ |  | $$L\_{average} \left(cm\right)$$ |  |
| $$ ΔR \left(Ω\right)$$ |  | $$ΔL \left(cm\right)$$ |  |
|  |  |  |  |
| $$X\_{left} \left(Ω\right)$$ |  | $$ΔX\_{left} \left(Ω\right)$$ |  |
|  |  |  |  |
| **Unknown on Right** |  |  |  |
| $$R\_{lowest} \left(Ω\right)$$ |  | $$L\_{lowest} \left(cm\right)$$ |  |
| $$R\_{highest} \left(Ω\right)$$ |  | $$L\_{highest} \left(cm\right)$$ |  |
| $$R\_{average} \left(Ω\right)$$ |  | $$L\_{average} \left(cm\right)$$ |  |
| $$ ΔR \left(Ω\right)$$ |  | $$ΔL \left(cm\right)$$ |  |
|  |  |  |  |
| $$X\_{right} \left(Ω\right)$$ |  | $$ΔX\_{right} \left(Ω\right)$$ |  |
|  |  |  |  |
| $$X\_{average} \left(Ω\right)$$ |  | $$ΔX\_{average} \left(Ω\right)$$ |  |

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