Sample Problems With Two Resistors

Worksheet (KEY)



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| VS | R1 | R2 |

1. VS = 24 V, R1 = 10.56 kΩ, R2 = 8.8 kΩ, Solve for RT and IT **(RT** **= 4.8 kΩ, IT** **= 5 mA)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| 2. | VS = 14 V, R1 = 9.6 kΩ, R2 = 8.4 kΩ, Solve for RT and IT |  | **(R** | **T** | **= 4480 Ω, I** | **T** | **= 3.125 mA)\_\_\_\_\_\_\_\_\_\_** |
| 3. | IT = 25 mA, R1 = 2 kΩ, R2 = 3 kΩ, Solve for Vs |  | **(V** | **S** | **= 30 V)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |  |
| 4. | IT = 2.25 mA, R1 = 20 kΩ, R2 = 80 kΩ, Solve for Vs |  | **(V** | **S** | **= 36 V)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |
| 5. | IT = 75 mA, R1 = 390 Ω, R2 = 624 Ω, Solve for I1 and I2 |  | **(I** | **1** |  |  | **= 46.154 mA, I** | **2** | **= 28.85 mA)\_\_\_\_\_\_** |  |  |
| 6. | IT = 3.25 mA, R1 = 2.4 kΩ, R2 = 8 kΩ, Solve for I1 and I2 |  | **(I** | **1** |  |  |  | **= 2.5 mA, I** | **2** | **= 0.75 mA or 750 μA)** |  |  |
| 7. | VS = 20 V, IT = 100 mA, I2 = 20 mA, Solve for R1 |  | **(R** | **1** | **= 250 Ω)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |  |
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| 8. | VS = 12 V, IT = 4.1 mA, I1 = 2.5 mA, Solve for R2 |  | **(R** | **2** | **= 7500 Ω)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |
| 9. | VS = 18 V, IT = 92.8 mA, I2 = 54.54 mA, Solve for R1 |  | **(R** | **1** | **= 470 Ω)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |
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| 10. | VS = 6 V, IT = 20 mA, R2 = 1.2 kΩ, Solve for R1 |  | **(R** | **1** | **= 400 Ω)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |
| 11. | VS = 9 V, IT = 3.34 mA, R2 = 4.2 kΩ, Solve for R1 |  | **(R** | **1** | **= 7.5 kΩ)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |
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| 12. | VS = 16 V, IT = 70.6 mA, R1 = 340 Ω, Solve for R2 |  | **(R** | **2** | **= 680 Ω)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |  |
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| 13. | R1 = 16 kΩ, I1 = 1.75 mA, I2 = 1.25 mA, Solve for R2 | **(R** | **2** | **= 22.4 kΩ)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |
| 14. | IT = 27 mA, VS = 54 V, R1 = R, R2 = 2R, Solve for R1 and R2 |  | **(R** | **1** | **= 3 kΩ, R** | **2** | **= 6 kΩ)\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |