Name Period Date

**Ideal Gas Law – Ch. 14**

1. At what temperature will 0.0100 mole of argon gas have a volume of 275 mL at 100.0 kPa?

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| given | gas law | work |
|  |  |  |
| formula |
|  |
| **answer:** |

1. What is the volume occupied by 36.0 g of water vapor at 125°C and 102 kPa?

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| given | gas law | work |
|  |  |  |
| formula |
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| **answer:** |

1. What mass of carbon dioxide will occupy 5.5 L at 5°C and 0.74 atm?

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| given | gas law | work |
|  |  |  |
| formula |
|  |
| **answer:** |

1. How many grams of AlCl3 must decompose in order to produce 3.10 dm3 of Cl2 at 50.0°C and 98.4 kPa? (HINT: You must correct to STP.)

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| 2AlCl3 → 2Al + 3Cl2 |
| **answer:** |

1. What volume of nitrogen can be produced by the decomposition of 50.0 g of NH4NO2 at 25°C and 1.20 atm? (HINT: You must correct to STP.)

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| NH4NO2 → N2 + 2H2O |
| **answer:** |