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| **Problem 28.49** |
| The figure http://session.masteringphysics.com/problemAsset/1074473/3/knight_Figure_27_48.jpgshows an infinitely wide conductor parallel to and distance dfrom an infinitely wide plane of charge with surface charge density eta, where \eta >0.

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| Part A |  |
| What is the magnitude of the electric field E_1_vecin region 1?

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| --- | --- | --- | --- | --- | --- | --- |
| ANSWER: |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | ***Answer not displayed*** |   \frac{\eta} {\epsilon_0} |  |

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 |
| Part B |  |
| What is the direction of the electric field E_1_vecin region 1?

|  |  |  |  |  |  |  |  |  |  |  |  |
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| ANSWER: |

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|  |  |
| --- | --- |
|  | Upward |
|  | Downward |
|  | The field is zero |

 |  | ***Answer not displayed*** |

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| Part C |  |
| What is the magnitude of the electric field E_2_vecin region 2?

|  |  |  |  |  |  |  |
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| ANSWER: |

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| --- | --- | --- | --- | --- |
|  |  | ***Answer not displayed*** |   \frac{\eta} {\epsilon_0} |  |

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| Part D |  |
| What is the direction of the electric field E_2_vecin region 2?

|  |  |  |  |  |  |  |  |  |  |  |  |
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| ANSWER: |

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|  |  |
| --- | --- |
|  | Upward |
|  | Downward |
|  | The field is zero |

 |  | ***Answer not displayed*** |

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| --- | --- |
| Part E |  |
| What is the magnitude of the electric field E_3_vecin region 3?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ANSWER: |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | ***Answer not displayed*** |   \frac{\eta} {\epsilon_0} |  |

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| Part F |  |
| What is the direction of the electric field E_3_vecin region 3?

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ANSWER: |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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|  |  |
| --- | --- |
|  | Upward |
|  | Downward |
|  | The field is zero |

 |  | ***Answer not displayed*** |

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|  |  |
| --- | --- |
| Part G |  |
| What is the magnitude of the electric field E_4_vecin region 4?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ANSWER: |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | ***Answer not displayed*** |   \frac{\eta} {\epsilon_0} |  |

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| Part H |  |
| What is the direction of the electric field E_4_vecin region 4?

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ANSWER: |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |

|  |  |
| --- | --- |
|  | Upward |
|  | Downward |
|  | The field is zero |

 |  | ***Answer not displayed*** |

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