

PHYS251 Fall 2007 Homework Answers III

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Homeworks: 1 through 30. UTEID: 73783

Homework 01

- 1 5.34716
- 2 - 119.585
- 3 65.9644m/s
- 4 63.2407°
- 5 12.8413
- 6 40.942°
- 7 11.3375m
- 8 - 26.1158°
- 9 9.3912
- 10 57.8288°
- 11 - 20

Homework 02

- 1 $6.25e + 13$
- 2 2.01406N
- 3 $5.78859e - 08C$
- 4 4
- 5 3
- 6 - 15.0509cm
- 7 $1.17841e + 13m/s^2$
- 8 $1.66667e - 08s$
- 9 0.00163668m
- 10 71070.4N/C

Homework 03

- 1 672982N/C
- 2 7
- 3 1
- 4 193746N/C
- 5 - 5.24097 $\mu C/m^2$
- 6 $2.0855e + 06N/C$
- 7 $1.70469e + 07N/C$
- 8 $3.97986e + 06N/C$
- 9 $2.03634e + 06N/C$
- 10 - 5.27552e + 17m/s²
- 11 0.213249mm

Homework 04

- 1 $327.672N \cdot m^2/C$
- 2 $0N \cdot m^2/C$
- 3 $183.232N \cdot m^2/C$
- 4 375539N/C
- 5 $1.10682e + 06N \cdot m^2/C$
- 6 $2.78186e + 07N/C$
- 7 $4.32734e + 06N/C$
- 8 840562N/C
- 9 0N/C
- 10 $1.42301e + 06N/C$
- 11 0N/C
- 12 155680N/C
- 13 622720N/C
- 14 258402N/C

Homework 05

- 1 $1.46088e - 06C$
- 2 0N/C
- 3 8
- 4 54211.6N/C
- 5 2
- 6 5
- 7 6
- 8 4
- 9 1
- 10 5
- 11 5
- 12 6
- 13 8
- 14 2
- 15 - 0.000245609C/m²
- 16 0.0005482C/m²

Homework 06

- 1 $5.54353e - 16J$
- 2 575499m/s
- 3 0.235127m/s
- 4 2022.2J
- 5 1.58461J
- 6 12.5921m/s
- 7 27.0699V
- 8 10.111J

Homework 07

- 1 $3.21386e - 06F$
- 2 8
- 3 4
- 4 $2.7116pF$
- 5 $62.3667pC$
- 6 $26.3683pF$
- 7 $1369.07kV$
- 8 $0.858947\mu F$
- 9 $1.44682\mu F$
- 10 $14.9023\mu C$
- 11 $2.58019\mu C$
- 12 $12.3221\mu C$
- 13 $14.9023\mu C$
- 14 $222.473mJ$

Homework 08

- 1 2
- 2 $76C$
- 3 $0.000147651m/s$
- 4 $6.85204A$
- 5 $58.6756R$
- 6 10.5357Ω
- 7 $8.82216A$

Homework 09

There is no homework 09.

Homework 10

- 1 $3.84615A$
- 2 $11.5385V$
- 3 $44.3787W$
- 4 $1.77515W$
- 5 1282Ω
- 6 $1.55118A$
- 7 $-0.563786A$
- 8 $2.11497A$
- 9 $0.793333A$
- 10 $0.605882A$
- 11 $4.01634V$
- 12 $3.25137V$
- 13 $0.0002933s$
- 14 $9.54e - 05C$

Homework 11

- 1 $0.0002933s$
- 2 $9.54e - 05C$
- 3 7
- 4 7
- 5 2
- 6 $1.9224e - 18N$
- 7 $-1.9224e - 18N$
- 8 $-9.612e - 19N$
- 9 $0.583596A$
- 10 $2.67027mT$
- 11 2
- 12 2
- 13 $215385V/m$
- 14 $1.07692e + 06m/s$
- 15 $1.19019e - 26kg$
- 16 $0.2m$

Homework 12

- 1 $8.72665\mu T$
- 2 $1.23924cm$
- 3 $33.2756\mu T$
- 4 6
- 5 $95.5323\mu T$
- 6 $1.10894e - 05N/m$
- 7 7
- 8 8
- 9 2

Homework 13

- 1 3
- 2 2
- 3 2
- 4 7
- 5 $10.2199nT$
- 6 10
- 7 $25.8117A$
- 8 $10.0887mA$

Homework 14

- 1 $1.08113V$
- 2 $70.1429V$
- 3 $2450N$
- 4 $9800W$
- 5 $0.000277163V$
- 6 $0.0689602V$
- 7 8
- 8 1
- 9 3
- 10 $0.00131591V$
- 11 2

Homework 15

- 1 $3.0916e - 09Wb$
- 2 $1.00066e + 10V\ m/s$
- 3 $0.0886A$
- 4 $100.289mA$
- 5 $59.0971m/s$
- 6 $2.097mV/m$
- 7 5
- 8 $2.1578mV/m$
- 9 $172.019mV$
- 10 4
- 11 1
- 12 2
- 13 7
- 14 8

Homework 16

- 1 $0.000335275T$
- 2 $6.00406e - 08Wb$
- 3 $0.893848mH$
- 4 $4.37299e - 06H$
- 5 $0.0034984H$
- 6 $1.88905ms$
- 7 $2.71845A$
- 8 $110.568ms$
- 9 $104V$
- 10 $23.0156W$
- 11 $13.3945W$
- 12 $5.7539J$
- 13 $0.780324s$

Homework 17

There is no homework 17.

Homework 18

- 1 110.626Ω
- 2 $4.45A$
- 3 44.2697Ω
- 4 3.09485Ω
- 5 $31.9887A$
- 6 $521043Hz/m$
- 7 $178.497mA$
- 8 $297.495mA$
- 9 20.0874Ω
- 10 $- 15.1369\Omega$
- 11 $3.44124kHz$
- 12 $3.09524A$
- 13 $1539.28V$

Homework 19

- 1 $3.16886e - 08T$
- 2 $1.44265e + 06W$
- 3 $8.79157m$
- 4 $2.93255e - 08s$
- 5 $3.29895e - 06T$
- 6 $1.50292N/C$
- 7 $4.08257e - 05T$
- 8 $48.8271W/m^2$
- 9 1
- 10 $0.00370256T$
- 11 $1.63525e + 09W/m^2$
- 12 $1230.95W$
- 13 $1.42211e + 08W/m^2$
- 14 $123.61W$

Homework 20

- 1 30.4675°
- 2 46.8803°
- 3 $4.83536e + 14Hz$
- 4 $413.333nm$
- 5 $1.99862e + 08m/s$
- 6 1.53
- 7 2.14451
- 8 27.7949°
- 9 40.6463°
- 10 20.9537°
- 11 31.3543°
- 12 41.1543°

Homework 21

- 1 $38.475cm$
- 2 $0.439695m$
- 3 $- 50cm$
- 4 $125.923cm$
- 5 $- 18.6961cm$
- 6 0.220994
- 7 $0.251934cm$
- 8 $20.5263cm$
- 9 $- 1.05263$
- 10 $- 5.29052cm$
- 11 1.52905
- 12 $68.8554cm$
- 13 0.385542
- 14 5

Homework 22

- 1 333.333nm
- 2 1.80841
- 3 1.80841
- 4 116.5m
- 5 49μm
- 6 0.49mm
- 7 2.39129
- 8 74.9299°
- 9 102.196nm
- 10 8.56183e - 05m
- 11 53.8365mm
- 12 0.75cm
- 13 96.7262nm

Homework 23

- 1 1
- 2 0.851909m
- 3 2.48mm
- 4 0.3mrad
- 5 3mrad
- 6 2
- 7 6
- 8 51.4714°
- 9 57320.8
- 10 0.00938578nm
- 11 0.50568nm

Homework 24

There is no homework 24.

Homework 25

- 1 448.667°C
- 2 2111°C
- 3 0.706807kg
- 4 111.077°C
- 5 592.638J/kg · ° C
- 6 287.346g
- 7 720cal
- 8 26.9297°C
- 9 10.925g

Homework 26

- 1 16760m³
- 2 0.835667kg
- 3 3.20553e + 31J
- 4 25.2747MJ
- 5 1.38319kW
- 6 252.715

Homework 27

- 1 31.9078m
- 2 413.696kPa
- 3 107.834K
- 4 0.00893646mol
- 5 26275.4Pa
- 6 1.24699e + 29
- 7 10437.4J
- 8 6.56503e - 21J
- 9 64.4388m/s
- 10 141.696K
- 11 5846.8m/s

Homework 28

- 1 2.1273e + 06J
- 2 285.271J
- 3 15368J
- 4 15082.7J
- 5 0.0601478m³
- 6 - 8.69091kJ
- 7 - 8.69091kJ
- 8 17.1kJ
- 9 428.571K
- 10 2.27023
- 11 0.129192L
- 12 68.2277K

Homework 29

- 1 20.2139atm
- 2 458.108°C
- 3 846.647K
- 4 548.252K
- 5 12.0549L
- 6 930K
- 7 679.458K
- 8 507.882J
- 9 16848J
- 10 11984J
- 11 4863.99J
- 12 2.53349atm
- 13 639.635K
- 14 478.436K

Homework 30

- 1 1.32707e + 09J
- 2 4.84668e + 08J
- 3 444.207°C
- 4 0.24407°C
- 5 0.662089
- 6 0.453089
- 7 13.4172J
- 8 114.717J