**PHYS 201L VECTORS** Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Partners:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   Day\_\_\_\_\_\_\_\_Time\_\_\_\_\_\_\_\_

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| Addition of Vectors Draw the vectors including the Resultant, ***FR*** and Equilibrant, ***FE***.  | Resultant Vector | Force Table Check |
| From [website](https://www.1728.org/vectors.htm) | Analytical method |
| 50 g @ 00and100 g @ 900 |  | *FR=**θR=*  | *FR=**θR=**θE=* | \_\_\_\_\_\_\_\_ |
| 50 g @ 200and250 g @ 1200 |  | *FR=**θR=*  | *FR=**θR=**θE=* | \_\_\_\_\_\_\_\_ |
| 50 g @ 200250 g @ 1200300 g @ 3000 |  | *FR=**θR=* | *FR=**θR=**θE=* | \_\_\_\_\_\_\_\_ |
| 100 g @ 300 150 g @ 1400125 g @ 2000200 g @ 3000 |  | *FR=* *θR=* | *FR=**θR=**θE=*  | \_\_\_\_\_\_\_\_\_ |
| A = 160 g, B = 100 gC = 120 g, D = 260 g  |  http://edugen.wileyplus.com/edugen/courses/crs6407/art/qb/qu/c01/EAT_1319521648216_0_399438379900267.gif | *FR=* *θR=* | *FR=**θR=**θE=*  | \_\_\_\_\_\_\_\_\_ |
| Resolution300 g @ 300 |  | *XXXXX* | *Fx=Fy=* | \_\_\_\_\_\_\_\_\_ |

Exercise: Use the [graphical method](http://www.youtube.com/watch?v=NaMBAihHBwo) to find the magnitude (FR) & direction (*θR*) of the resultant for the case of addition of four vectors. Here you need to draw a vector diagram, using a protractor and ruler, following the tail-to-tip method, to scale. Show the direction of the vectors and identify FR & *θR* in the drawing. Use 20 g = 1 cm.

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| http://edugen.wileyplus.com/edugen/courses/crs6407/art/qb/qu/c01/EAT_1319521648216_0_399438379900267.gif | A = 160 g = cmB = 100 g = cmC = 120 g = cm D = 260 g = cm  | *FR*= \_\_\_\_\_\_\_\_\_cm *FR*= \_\_\_\_\_\_\_\_\_ g  *θR* = \_\_\_\_\_\_\_\_\_\_\_\_\_ |

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