Name _____ Hour _____

VECTOR PROBLEMS

16 points *(due on various days)*

_____	+	_____	+	_____	=	_____
4		6		6		16
# 1, 2		#3, 4		# 5, 6		
Tues		Wed		Thurs		TOTAL

REMEMBER- Your graphical answers should be within $\pm$ ½ cm and $\pm$ 2° of your mathematical answers.

Problem 1 *due***:__Tues__**   The president is on Air Force One and is traveling at 70 m/s at 10° N of E and
the wind is blowing at 30 m/s at 25° E of N. Find the velocity of his plane graphically.

(ans. around 90 m/s at 26 ^{o} N of E)

scale: 1 cm = _____ m/s

Final answer: [   ]   *physics teacher's initials:* [   ]

Problem 2 *due***:___Tues__**You are trying to get to physics class on time. You are trying to avoid all the
freshmen, so you walk 50 meters at 20° W of N and then 20 meters at 40° W of S. What is your
displacement? Solve this graphically.   *(ans. 45 m at 40° W of N)*

scale: 1 cm = _____ m

Final answer: [   ]   *physics teacher's initials:* [   ]

Name _____ Hour _____

Problem 3 *due*:___**Wed**___ A quarterback throws a football at 18 m/s at $30°$ N of E, but the wind is
blowing at 9 m/s $25°$ E of N. Find the velocity of the football   *(ans. around 26 m/s at $42°$ N of E)*
   a) graphically.

scale: 1 cm = _____ m/s

Final answer:

   b) by resolution into components.

Final answer: *physics teacher's initials:*

Problem 4 *due:__**Wed**___* You are playing Frisbee golf. You throw the Frisbee 20 meters at
20° W of S and then 15 meters at 30° N of W. Calculate the Frisbee's displacement
    a) graphically.   *(ans. around 23 m at 30° S of W)*

scale: 1 cm = _____ m

Final answer: _____

    b) by resolution into components.
         *(Hint: You will need to **subtract** the y components!)*

Final answer: _____   *physics teacher's initials:*

Name _____ Hour _____

Problem 5 *due***:___Thurs___** Tiger Woods takes two putts to sink his golf ball in the hole once he is on
the green. The first putt displaces the ball 6 m at $25°$ N of E, and the second putt displaces the ball
3.2 m at $20°$ N of W. What displacement would put the ball in the hole in one putt? Solve this
   a) graphically   *(ans. 4.4 m at $34°$ E of N)*

scale: 1 cm = _____ m

Final answer: |_____|

   b) by resolution into components.

Final answer: |_____| *physics teacher's initials:* |_____|

Name _____ Hour _____

Problem 6 *due*:__Thurs___   You are trying to get through the B2 cluster to get to class. You walk
50 m at 35° E of S, then 20 meters at 20° N of E. Find your displacement

    a)   graphically.   *(ans. 57 m at 37° S of E)*

scale: 1 cm = _____ m/s

Final answer:

    b)   by resolution into components.

Final answer: *physics teacher's initials:*

Name _____ Hour _____

Problem 7: *optional for 1 sticker.* You are in a hot air balloon which travels 40 meters at 35° N of W and then 20 meters at 15° E of N. Find your displacement.   *(ans. 50 m at 33° W of N)*

       a)   graphically.

scale: 1 cm = _____ m

Final answer: [   ]

      b) by resolution into components.

Final answer: [   ]   *physics teacher's initials:* [   ]

Problem 8: Not due, but should know for quiz!: What is the difference between a scalar and a vector? List 2 examples of each. What is the resultant? How should you write your answer for each problem?