Math2210 Quiz 2 (Sections 11.2, 11.3)   Summer, 2012   Dylan Zwick

Name _____ Date _____

<u>Instructions</u>: Please show all of your work as partial credit will be given where appropriate, **and** there may be no credit given for problems where there is no work shown.

1.   Force u has a magnitude of 15 pounds in the East direction. Force v has a magnitude of 20 pounds in the South direction. Find the magnitude and direction (geometrically) of the force w needed to counterbalance u and v . (Just write answers in as simplified a form as you can without a calculator.)

magnitude of w : _____

direction of w : _____

2. For $u = \langle 0, 4, 2 \rangle$ and $v = 4i + 3j - 2k$,

   (a) find $2u - 3v$.

$2u - 3v$ = _____

   (b) find $\hat{u}$.

$\hat{u}$ = _____

3. Find the projection of <2, 3, -3> onto the vector <1, 1, -2>

projection: _____

4. Circle all of the following statements that make sense.

(a) $\boldsymbol{u}\cdot(\boldsymbol{v}-\boldsymbol{w})$

(b) $|\boldsymbol{u}|(\boldsymbol{v}\times\boldsymbol{w})$

(c) $(\boldsymbol{u}\times\boldsymbol{v})\times\boldsymbol{w}$

(d) $(\boldsymbol{u}\cdot\boldsymbol{v})\cdot\boldsymbol{w}$