GSE Precalculus Practice Worksheet Dot Product

Determine whether the following vectors are orthogonal, parallel, or neither.

1. **u** = <-12,30> and **v =** <8,-20> 2. **u** = <2, -3> and **v =** <6,4>

3. **u** = <-2,1> and **v** = <2,4> 4. **u** = 2i – 5j and **v** = 4i + 7j

Find the work done using the formula ****

5. A constant force **F =** <2,5> moves an object along the vector <-1,5>. Find the work done during this process.

6. Find the work done by the force **F =** -2i + 3j in moving an object from the point (1,4) to the point (3,-5)

7. A 36 N force acting at 36o moves a box 20 m horizontally. Find the work done.

8. Bob is carrying a pack of books from the table to the shelf with a force of 35 pounds at a 28o angle. If the distance from the table to the shelf is 20 feet horizontally. How much work has Bob done when he carries these books?

9. How much work is done by a force **F** = <9,7> in moving an object from (-1, 6) to (2, 9)?

10. A 50 N force acting at 260o moves an object 14 m at 215o. Find the work done.