14K The Vector Product of Two Vectors (Cross Product)-Day 1

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| --- | --- |
| The **vector cross product** of vectors  and  is | Tip: Use the determinant!    Remember +, - , + |

Examples: Use , , and  to evaluate the expressions.

1.  2.  3. 

4.  5. 

6.  7.  8. 

**Algebraic Properties of the Vector Cross Product** Use the results of problems 1 – 8 to fill in the blanks.

 is a \_\_\_\_\_\_\_\_\_ which is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to both **a** and **b**. (#1 – 3)

\_\_\_\_ for all **a**.

\_\_\_\_\_\_ for all **a** and **b**.

Hence  and  have the \_\_\_\_\_\_\_\_ length and \_\_\_\_\_\_\_\_\_\_\_\_\_ direction.

 is called the **scalar triple product**.

 (#6 – 8)



Example 9)  and .

1. Find two perpendicular vectors to both  and .
2. Verify your answers of a are perpendicular to and****.