Worksheet: Vector Algebra

IB · Class 12 · Mathematics · 8 questions · 35 marks

Name: _____ Date: _____ Score: _____ / 35

Q1. Classify time period, distance, and force as scalar or vector quantities. *[2 marks]*

Q2. Find the unit vector in the direction of a=i+j+2k. *[3 marks]*

Q3. Find the position vector of the midpoint of the vector joining P(2,3,4) and Q(4,1,-2). *[4 marks]*

Q4. Find the projection of the vector i-j on the vector i+j. *[4 marks]*

Q5. Find the area of the triangle with vertices A(1,1,2), B(2,3,5), C(1,5,5). *[5 marks]*

Q6. If a, b, c are unit vectors such that a+b+c=0, find a.b+b.c+c.a. *[5 marks]*

Q7. Show that (a-b) x (a+b)=2(a x b). *[6 marks]*

Q8. Find the position vector of R which divides PQ (position vectors i+2j-k and -i+j+k) externally in the ratio 2:1. *[6 marks]*