

Vector problems

1. a) A river flows at 3 mph and a rower rows at 6 mph. What heading should the rower take to go straight across a river?
b) Answer the same question if the river flows at 6 mph and the rower rows at 3 mph.
2. Find a unit vector in the direction of $\langle 2, 3 \rangle$.
3. Use vectors to prove that the diagonals of a parallelogram bisect each other.
4. Prove using vector methods that the midpoints of the sides of a space quadrilateral form a parallelogram

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