

Math Problems 4

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The following problems are based on the following geometric objects:

$$A = (3, 2, -5)$$

$$B = (2, 3, -5)$$

$$C = (1, 1, 1)$$

$$v = (-4, -3, 0)$$

Q1. (10 points) Find the surface normal for a plane going through the points ABC.

Q2. (10 points) What is the cosine of the angle between the surface normal and a directional light coming from direction v ? Make sure the surface normal is facing the light and explain how you know.

Q3. (5 points) Will the diffuse component of the lighting computation be relatively large or small?