Quiz #3; Tuesday, date: 02/06/2018
MATH 53 Multivariable Calculus with Stankova
Section #117; time: 5 – 6:30 pm
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Student name:

1. Find a nonzero vector orthogonal to the plane through the points P, Q, and R; find the area of triangle PQR.

$$P(-6, 2, 4), \quad Q(-8, 2, 6), \quad R(-9, 4, 3).$$

2. *True / False?* For any vectors $\mathbf{a}$, $\mathbf{b}$ and $\mathbf{c}$,

$$(\mathbf{a} \cdot \mathbf{b})\mathbf{c} \text{ and } (\mathbf{a} \cdot \mathbf{c})\mathbf{b}$$

may not be parallel but will always have the same magnitude by associativity.

3. *True / False?* Suppose A and B are two planes that intersect at a line ℓ. To find the angle between A and B, we can follow the recipe here:

   - first, select a point C on line ℓ;
   - then, select lines ℓ_A and ℓ_B through C and orthogonal to ℓ, on A and B;
   - finally, find the angle between lines ℓ_A and ℓ_B.