

## Math 324 B, Fall 2018, Quiz 6

You have 5 minutes to complete the quiz.
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Name: \_\_\_\_\_

1. Directly evaluate the surface integral

$$\iint_S F \cdot dS,$$

where  $F$  is the vector field  $F(x, y, z) = x\hat{i} + 2y\hat{j} + 3z\hat{k}$ , and  $S$  is the surface of the cube with vertices  $\{\pm 1, \pm 1, \pm 1\}$ , oriented outward. (Don't use the divergence theorem: evaluate using the definition of surface integration.)