

Math 8
Winter 2020

Preliminary Homework
Assigned Friday, January 31

Note: Preliminary homework is always graded credit or no credit. **You get full credit for completing the assignment, whether or not your answers are correct, as long as your work shows you have thought about the problem.** The purpose of preliminary homework is to start you thinking about the topic of the next class.

You may use your preliminary homework for in-class activities with your classmates. You should be sure to think about these questions so you will be prepared.

Preliminary homework is always due at the *beginning* of the next class.

Assignment: Solve the equations

$$\langle x, y, z \rangle \cdot \langle 1, 2, 1 \rangle = 0$$

$$\langle x, y, z \rangle \cdot \langle 2, 2, 0 \rangle = 0$$

to find all vectors perpendicular to both $\langle 1, 2, 1 \rangle$ and $\langle 2, 2, 0 \rangle$.

Your answer will have to somehow describe an infinite collection of vectors. For example, if you were asked to find all vectors parallel to the vector $\langle 1, 1, 1 \rangle$, your answer could be “all vectors of the form $\langle t, t, t \rangle$,” or “all vectors $\langle x, y, z \rangle$ such that $y = x$ and $z = x$.”