

Problem 5. (10 pts) Find the area of the parallelogram spanned by the vectors  $\langle 1, 0, -1 \rangle$  and  $\langle -2, 2, 0 \rangle$ .

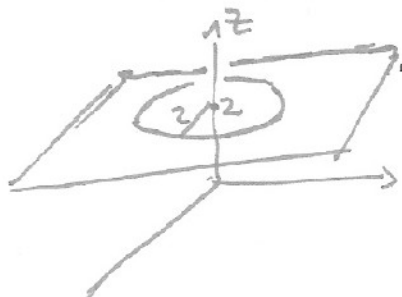
- A.  $3\sqrt{2}$
- B.  $2\sqrt{2}$
- C.  $2\sqrt{3}$
- D.  $3\sqrt{3}$
- E. None of the above

$$\begin{cases} \langle 1, 0, -1 \rangle \\ \langle -2, 2, 0 \rangle \end{cases} \rightarrow \langle 2, 2, 2 \rangle$$

$$|2 \langle 1, 1, 1 \rangle| = 2\sqrt{3}$$

Problem 6. (10 pts)  $C$  is a circle on a horizontal plane at height 2, of radius 2, centered on the  $z$ -axis. Its equation is

- A.  $x^2 + y^2 = 4$
- B.  $x^2 + y^2 + z^2 = 4, z = 2$
- C.  $2x + 2z = 2$
- D.  $x^2 + z^2 = 2, x = 2$
- E. None of the above



$$\begin{cases} z = 2. \\ x^2 + y^2 = 4 \end{cases}$$