Each problem is worth 5 points. Clear and complete justification is required for full credit.

1. Parametrize and give bounds for the rectangle with vertices (3,0,0), (3,2,0), (3,2,5), and (3,0,5).

\[ x(u,v) = 3 \]
\[ y(u,v) = u \]
\[ z(u,v) = v \]
\[ 0 \leq u \leq 2, \quad 0 \leq v \leq 5 \]

Nice!

2. Parametrize and give bounds for the portion of a cylinder with radius 5 centered on the y-axis between \( y = 2 \) and \( y = 20 \).

\[ x(u,v) = 5 \cos v \]
\[ y(u,v) = u \]
\[ z(u,v) = 5 \sin v \]
\[ 2 \leq u \leq 20 \]
\[ 0 \leq v \leq 2\pi \]

Great!