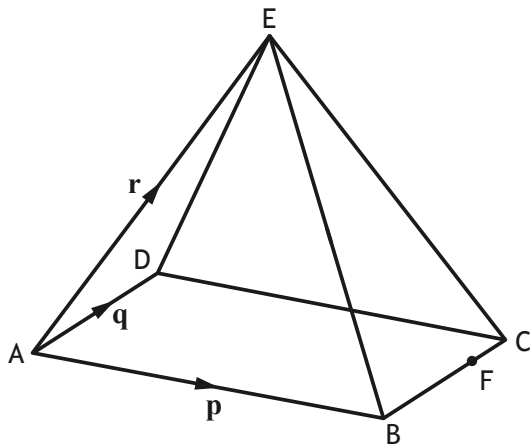


3. E,ABCD is a rectangular based pyramid.

$\overrightarrow{AB} = \mathbf{p}$, $\overrightarrow{AD} = \mathbf{q}$ and $\overrightarrow{AE} = \mathbf{r}$.



(a) Express \overrightarrow{BE} in terms of \mathbf{p} and \mathbf{r} .

1

Point F divides BC in the ratio 3:1.

(b) Express vector \overrightarrow{EF} in terms of \mathbf{p} , \mathbf{q} and \mathbf{r} .

2