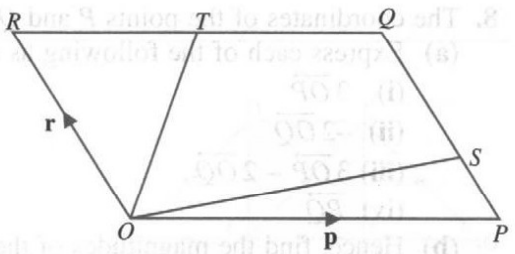
6. In the diagram, $OPQR$ is a parallelogram. S is a point on PQ such that $PS : PQ = 1 : 3$. T is a point on RQ such that $RT : RQ = 1 : 2$. $\overrightarrow{OP} = \mathbf{p}$ and $\overrightarrow{OR} = \mathbf{r}$. Express each of the following vectors in terms of $\mathbf{p}$ and/or $\mathbf{r}$.

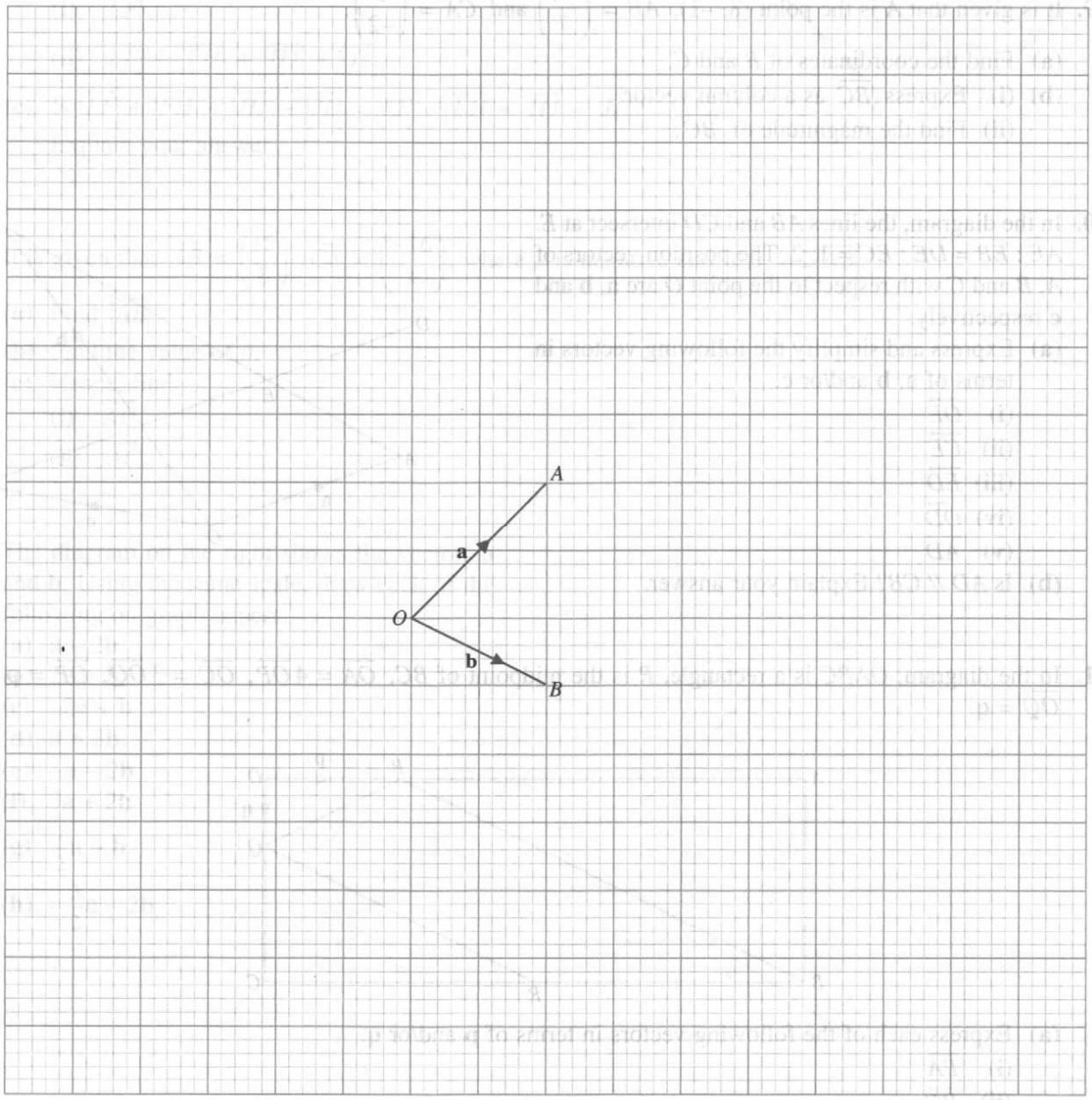


(a) $\overrightarrow{RT}$ **(b)** $\overrightarrow{PS}$

(c) $\overrightarrow{OT}$ **(d)** $\overrightarrow{OS}$

(e) $\overrightarrow{ST}$ **(f)** $\overrightarrow{RS}$

7.



In the diagram, $\overrightarrow{OA} = \mathbf{a}$ and $\overrightarrow{OB} = \mathbf{b}$. Mark on the diagram, the point

(a) C if $\overrightarrow{OC} = \overrightarrow{OA} + \overrightarrow{OB}$,

(b) D if $\overrightarrow{OD} = \overrightarrow{OB} - \overrightarrow{OA}$,

(c) E if $\overrightarrow{OE} = 2\overrightarrow{OA} - \overrightarrow{OB}$,

(d) F if $\overrightarrow{OF} = \overrightarrow{OA} + 3\overrightarrow{OB}$,

(e) G if $\overrightarrow{OG} = 3\overrightarrow{OA} + 2\overrightarrow{OB}$,

(f) H if $\overrightarrow{OH} = -\overrightarrow{OA} - 2\overrightarrow{OB}$.