## Al Moattasem International School <br> Jubail <br> Level 9 - Revision Work Sheet 3 <br> Chapter 8 <br> Topic - Vector Geometry

1) Triangle $P Q R$ is shown below where $\overrightarrow{P Q}=\mathbf{b}$ and $\overrightarrow{P R}=\mathbf{a}$.


Express the following vectors in terms of $\mathbf{b}$ and $\mathbf{a}$.
a) $\overrightarrow{P Q}$
b) $\overrightarrow{\mathrm{RP}}$
c) $\overrightarrow{Q R}$
d) $\overrightarrow{R Q}$
2) OABC is a parallelogram where $\overrightarrow{O A}=\mathbf{p}$ and $\overrightarrow{O C}=\mathbf{x}$.


Express the following vectors in terms of $\mathbf{p}$ and $\mathbf{x}$.
a) $\overrightarrow{\mathrm{AB}}$
b) $\overrightarrow{\mathrm{BC}}$
c) $\overrightarrow{\mathrm{OB}}$
d) $\overrightarrow{\mathrm{AC}}$
3) $A B C D$ is a rectangle where $\overrightarrow{A B}=\mathbf{y}$ and $\overrightarrow{B C}=\mathbf{c}$.


Express the following vectors in terms of $\mathbf{y}$ and $\mathbf{c}$.
a) $\overrightarrow{\mathrm{AD}}$
b) $\overrightarrow{\mathrm{AC}}$
c) $\overrightarrow{C D}$
d) $\overrightarrow{\mathrm{BD}}$
4) ABCD is a trapezium where $\overrightarrow{\mathrm{AB}}=\mathbf{c}, \overrightarrow{\mathrm{BC}}=\mathbf{t}$ and $\overrightarrow{\mathrm{AD}}=2 \overrightarrow{\mathrm{BC}}$.


Express the following vectors in terms of $\mathbf{t}$ and $\mathbf{c}$.
a) $\overrightarrow{\mathrm{AC}}$
b) $\overrightarrow{\mathrm{DB}}$
c) $\overrightarrow{C D}$
d) $\overrightarrow{\mathrm{DC}}$
5) ABCDEF is a regular hexagon where $\overrightarrow{O A}=\mathbf{p}$ and $\overrightarrow{\mathrm{OB}}=\mathbf{z}$.


Express the following vectors in terms of $\mathbf{p}$ and $\mathbf{z}$.
a) $\overrightarrow{\mathrm{AB}}$
b) $\overrightarrow{\mathrm{DB}}$
c) $\overrightarrow{\mathrm{OC}}$
d) $\overrightarrow{\mathrm{FD}}$

