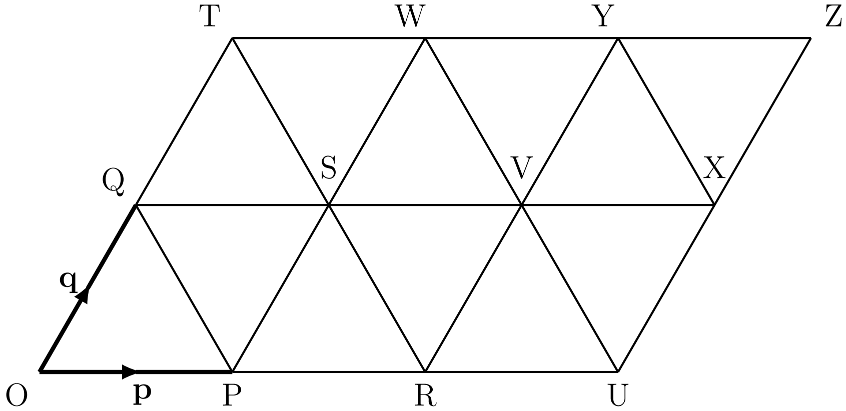
1. The diagram below shows 12 congruent triangles.




$\overrightarrow{OP} = \mathbf{p}$ {Handwriting **bold** is hard to do so mathematicians write $\underline{p}$ instead of $\mathbf{p}$}

$\overrightarrow{OQ} = \mathbf{q}$ {and write $\underline{q}$ instead of $\mathbf{q}$}

Find in terms of **p** and **q** the vectors

(i) $\overrightarrow{PU}$ = .......................... (ii) $\overrightarrow{PS}$ = ..........................

(iii) $\overrightarrow{RY}$ = .......................... (iv) $\overrightarrow{TY}$ = ..........................

(v) $\overrightarrow{OT}$ = .......................... (vi) $\overrightarrow{QX}$ = ..........................

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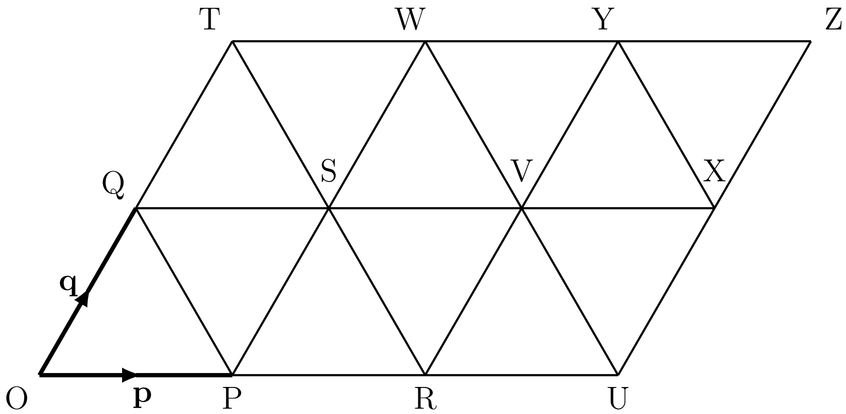


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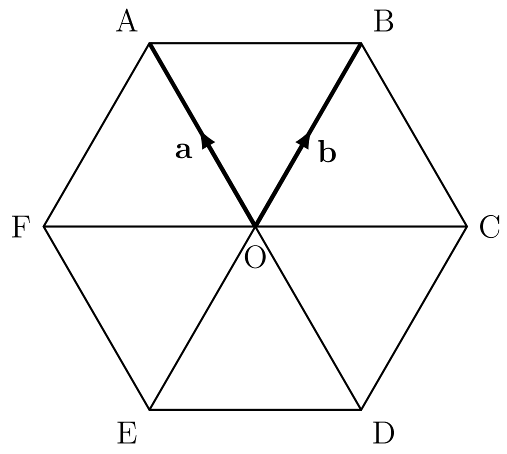
2. The diagram below shows regular hexagon ABCDEF

O is the centre of the hexagon

$\overrightarrow{OA} = \mathbf{a}$

$\overrightarrow{OB} = \mathbf{b}$




Write an expression, in terms of **a** and **b** for

(i) $\overrightarrow{DA} =$ ........................... (ii) $\overrightarrow{FA} =$ ...........................

(iii) $\overrightarrow{EB} =$ ........................... (iv) $\overrightarrow{DC} =$ ...........................

**Answers** 1 (i) 2**p** (ii) **q** (iii) 2**q** (iv) 2**p** (v) 2**q** (vi) 3**p**
2 (i) 2**a** (ii) **b** (iii) 2**b** (iv) **b**

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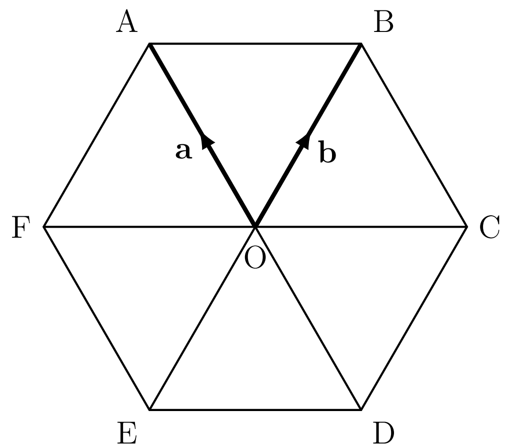


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