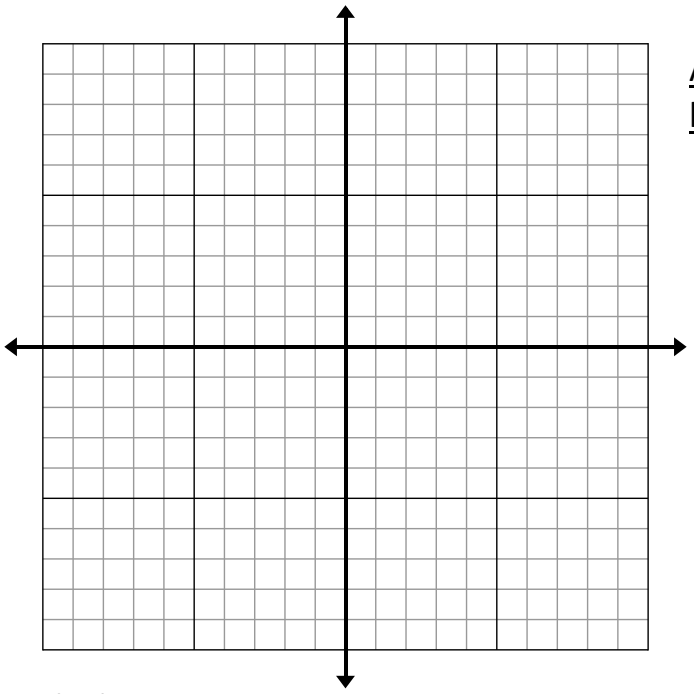
Unit 2: Coordinate Geometry Version A Name _____

SHOW ALL OF YOUR WORK.

a) Graph vectors ***A+B+C+D*** when $\vec{a}=\begin{pmatrix}1\\4\end{pmatrix},\vec{b}=\begin{pmatrix}7\\1\end{pmatrix},\vec{c}=\begin{pmatrix}-1\\-4\end{pmatrix},\vec{d}=\begin{pmatrix}-7\\-1\end{pmatrix}$ on the graph below.

b) Identify any properties of the quadrilateral using magnitudes (distances) and parallel/perpendicular vectors.

c) Classify the type of quadrilateral.



<u>After making calculations, identify properties below:</u>

Quadrilateral

<u>Calculations</u>

Magnitudes (lengths):

Parallel or Perpendicular Vectors:

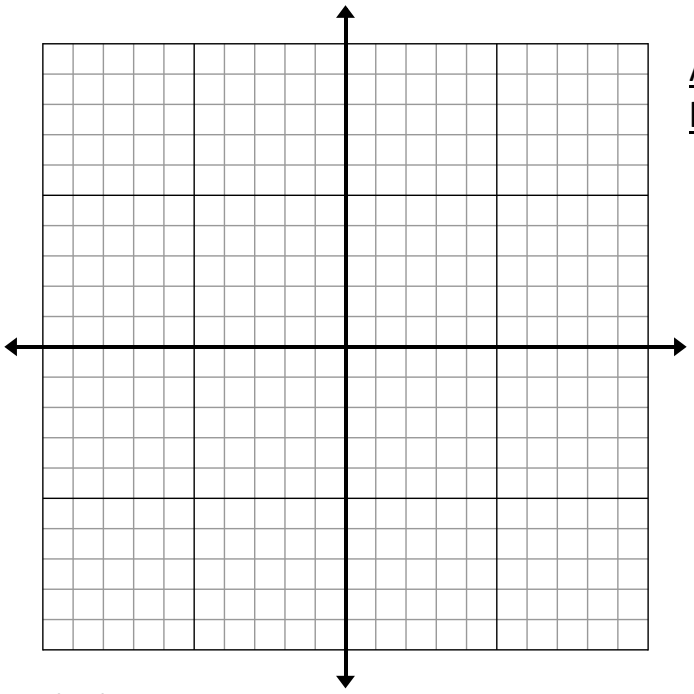
Unit 2: Coordinate Geometry Version B Name _____

SHOW ALL OF YOUR WORK.

a) Graph vectors ***A+B+C+D*** when $\vec{a}=\begin{pmatrix}3\\2\end{pmatrix},\vec{b}=\begin{pmatrix}4\\-6\end{pmatrix},\vec{c}=\begin{pmatrix}-3\\-2\end{pmatrix},\vec{d}=\begin{pmatrix}-4\\6\end{pmatrix}$ on the graph below.

b) Identify any properties of the quadrilateral using magnitudes (distances) and parallel/perpendicular vectors.

c) Classify the type of quadrilateral.



<u>After making calculations, identify properties below:</u>

Quadrilateral

<u>Calculations</u>

Magnitudes (lengths):

Parallel or Perpendicular Vectors:

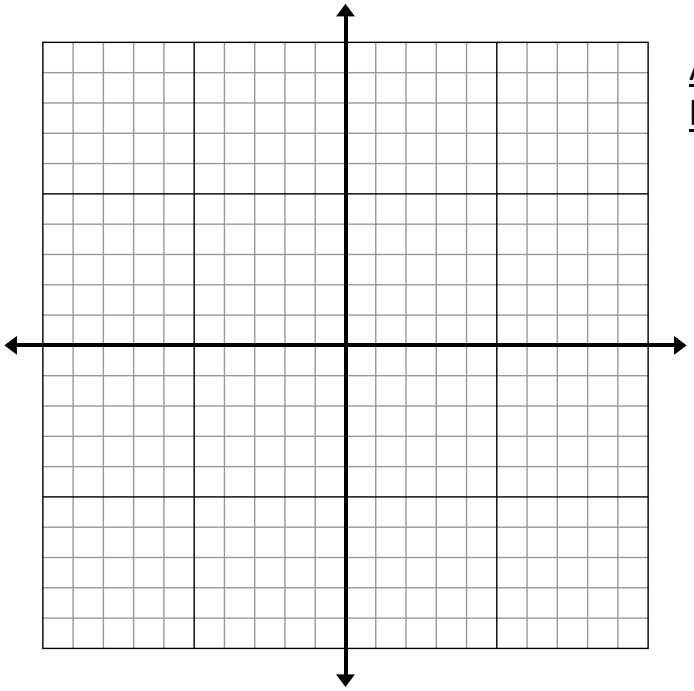
Unit 2: Coordinate Geometry Version C Name _____

SHOW ALL OF YOUR WORK.

a) Graph vectors ***A+B+C+D*** when $\vec{a}=\begin{pmatrix}-2\\3\end{pmatrix},\vec{b}=\begin{pmatrix}3\\2\end{pmatrix},\vec{c}=\begin{pmatrix}2\\-3\end{pmatrix},\vec{d}=\begin{pmatrix}-3\\-2\end{pmatrix}$ on the graph below.

b) Identify any properties of the quadrilateral using magnitudes (distances) and parallel/perpendicular vectors.

c) Classify the type of quadrilateral.



<u>After making calculations, identify properties below:</u>

<u>Quadrilateral</u>

<u>Calculations</u>

Magnitudes (lengths):

Parallel or Perpendicular Vectors:

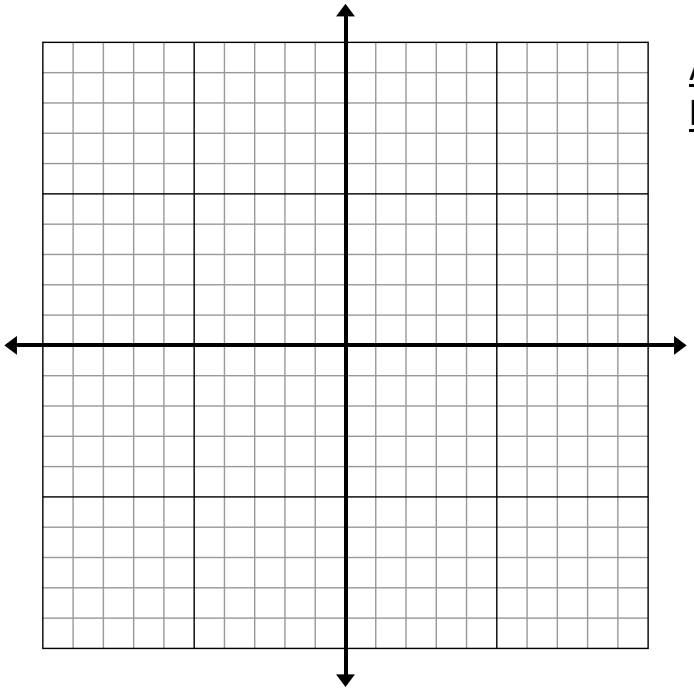
Unit 2: Coordinate Geometry Version D Name _____

SHOW ALL OF YOUR WORK.

a) Graph vectors ***A+B+C+D*** when $\vec{a}=\begin{pmatrix}-2\\3\end{pmatrix},\vec{b}=\begin{pmatrix}2\\3\end{pmatrix},\vec{c}=\begin{pmatrix}2\\-3\end{pmatrix},\vec{d}=\begin{pmatrix}-2\\-3\end{pmatrix}$ on the graph below.

b) Identify any properties of the quadrilateral using magnitudes (distances) and parallel/perpendicular vectors.

c) Classify the type of quadrilateral.



<u>After making calculations, identify properties below:</u>

Quadrilateral

<u>Calculations</u>

Magnitudes (lengths):

Parallel or Perpendicular Vectors:

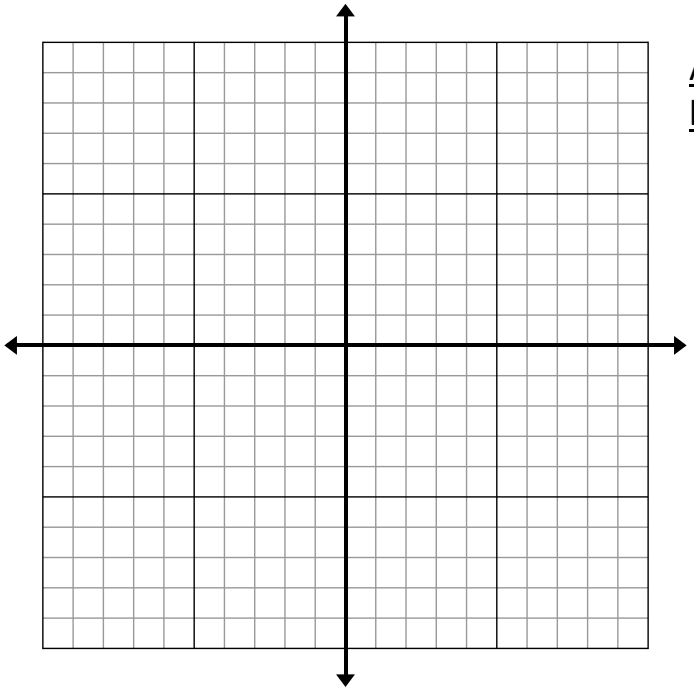
Unit 2: Coordinate Geometry Version E Name _____

SHOW ALL OF YOUR WORK.

a) Graph vectors ***A+B+C+D*** when $\vec{a}=\begin{pmatrix}-3\\6\end{pmatrix},\vec{b}=\begin{pmatrix}6\\-3\end{pmatrix},\vec{c}=\begin{pmatrix}1\\-4\end{pmatrix},\vec{d}=\begin{pmatrix}-4\\1\end{pmatrix}$ on the graph below.

b) Identify any properties of the quadrilateral using magnitudes (distances) and parallel/perpendicular vectors.

c) Classify the type of quadrilateral.



<u>After making calculations, identify properties below:</u>

<u>Quadrilateral</u>

<u>Calculations</u>

Magnitudes (lengths):

Parallel or Perpendicular Vectors:

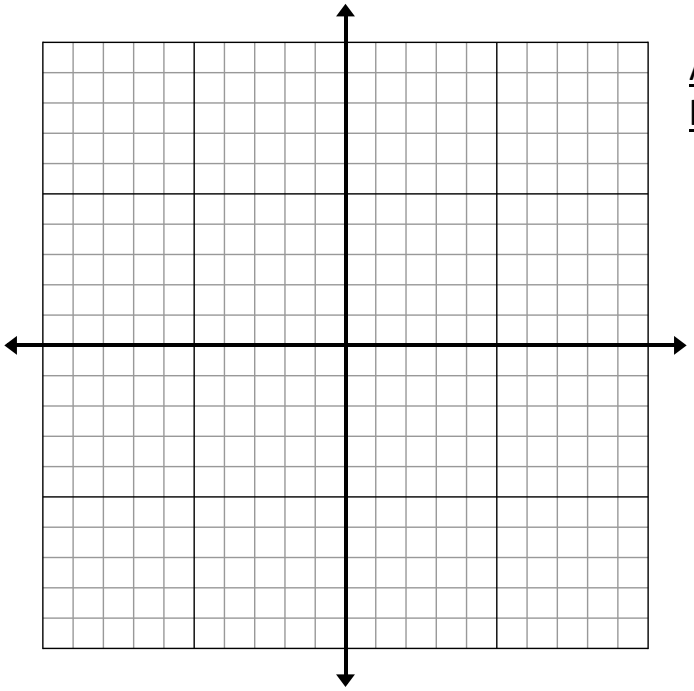
Unit 2: Coordinate Geometry Version F Name _____

SHOW ALL OF YOUR WORK.

a) Graph vectors ***A+B+C+D*** when $\vec{a}=\begin{pmatrix}-1\\3\end{pmatrix},\vec{b}=\begin{pmatrix}2\\2\end{pmatrix},\vec{c}=\begin{pmatrix}3\\-1\end{pmatrix},\vec{d}=\begin{pmatrix}-4\\-4\end{pmatrix}$ on the graph below.

b) Identify any properties of the quadrilateral using magnitudes (distances) and parallel/perpendicular vectors.

c) Classify the type of quadrilateral.



<u>After making calculations, identify properties below:</u>

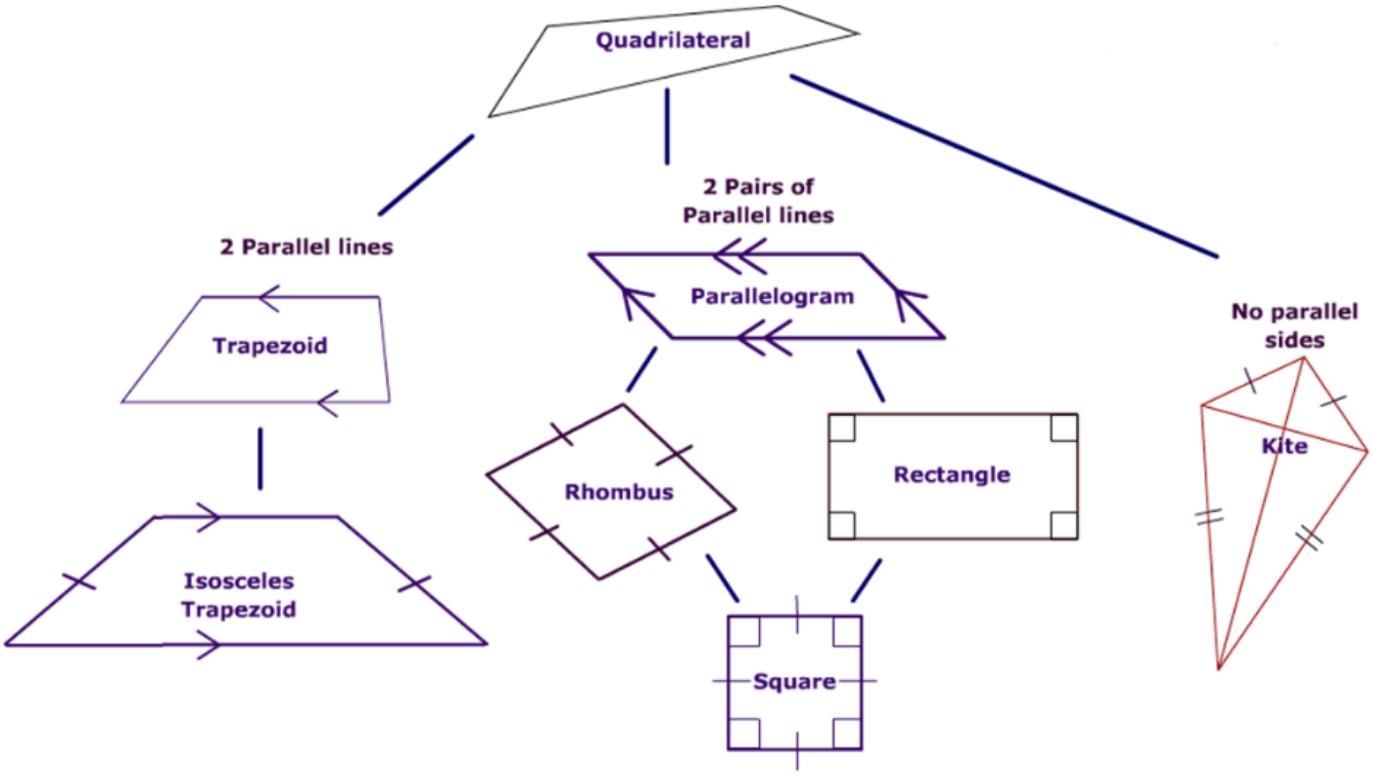
<u>Quadrilateral</u>

<u>Calculations</u>

Magnitudes (lengths):

Parallel or Perpendicular Vectors:

Guidelines:
The Quadrilateral Tree



Vector Dot Product: $\begin{pmatrix} a \\ b \end{pmatrix} \bullet \begin{pmatrix} c \\ d \end{pmatrix}$ = a • c + b • d = scalar number

If the Dot Product of two vectors equals zero (0), then the vectors are orthogonal $\perp$.

Parallel Vectors: $\vec{m} \parallel \vec{n}$ when k is a scalar: $\vec{m} = \begin{pmatrix} a \\ b \end{pmatrix}$ and $\vec{n} = \begin{pmatrix} ka \\ kb \end{pmatrix}$.

Magnitude (length/distance/size): $\mathbf{A^2 + B^2 = C^2}$, where C is the length of the vector and A, B are the horizontal and vertical components.