

PRODUIT SCALAIRE SÉRIE 3

Activités mentales et automatismes en classe de première
IREM de Clermont-Ferrand

A, B et C sont trois points 2 à 2 distincts du plan. Dans chaque cas, déterminer l'ensemble des points M vérifiant la condition donnée.

A.



B.



C.



Nº1

$$MA = MB$$

A.

.B

.C

Nº2

$$AM = AB$$

A.

.B

.C

Nº3

$$AM^2 = BC^2$$

A.

B.

C.

Nº4

$$(MB + MC)(MB - MC) = 0$$

A.

B.

C.

Nº5

$$\overrightarrow{AM} = \overrightarrow{BC}$$

A.

.B

.C

Nº6

$$\overrightarrow{AM} = \overrightarrow{MC}$$

A.

.B

.C

Nº7

$$\overrightarrow{AM} \cdot \overrightarrow{AB} = 0$$

A.

B.

C.

N°8

\overrightarrow{MA} et \overrightarrow{MB} sont orthogonaux

A.

B.

C.

Nº9

$$\overrightarrow{MA} \cdot \overrightarrow{BC} = 0$$

A.

B.

C.

Nº10

$$\overrightarrow{MA} \cdot \overrightarrow{MC} = 0$$

A.

B.

C.

CORRECTION

Nº1

$$MA = MB$$

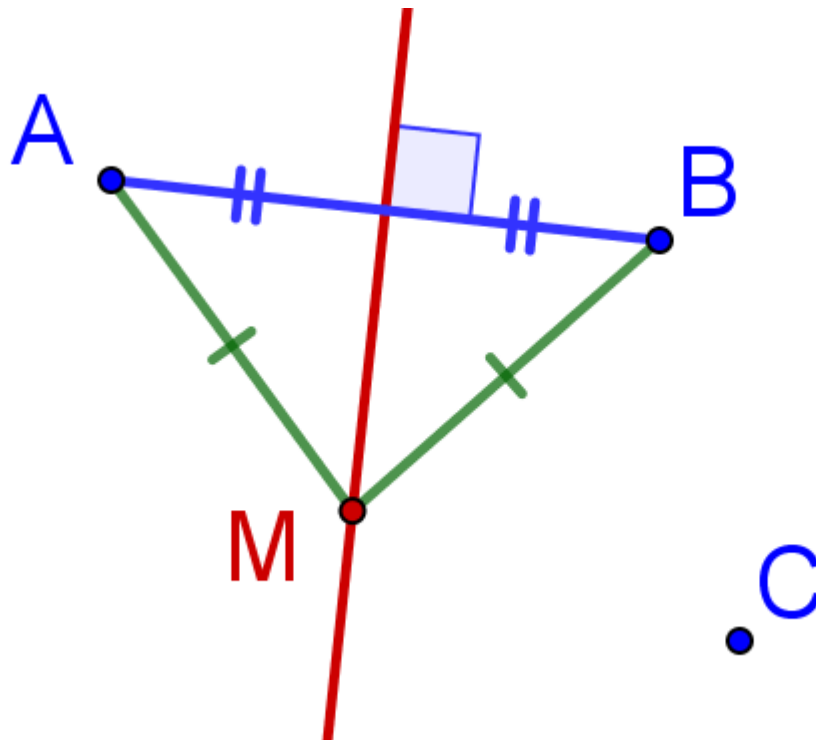
A.

B.

C.

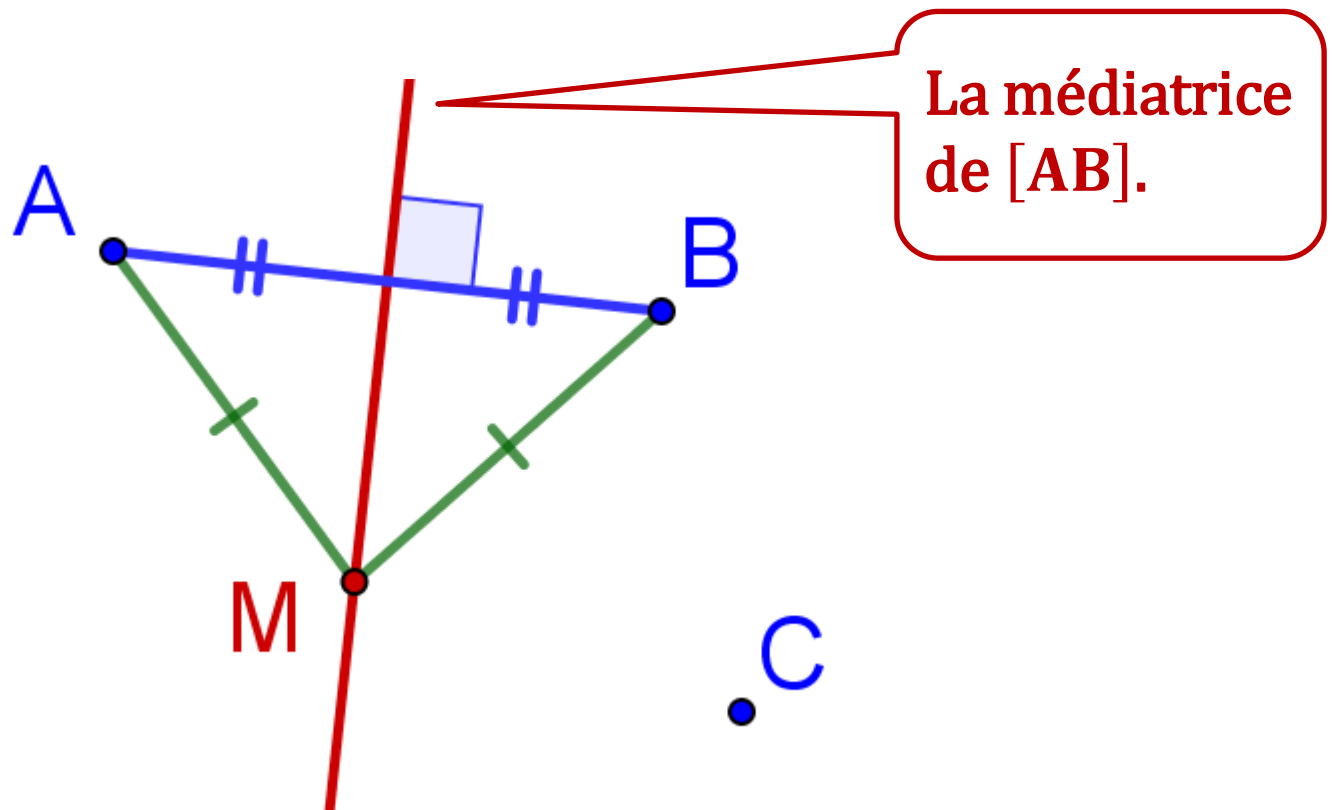
Nº1

$$MA = MB$$



N°1

$$MA = MB$$



Nº2

$$AM = AB$$

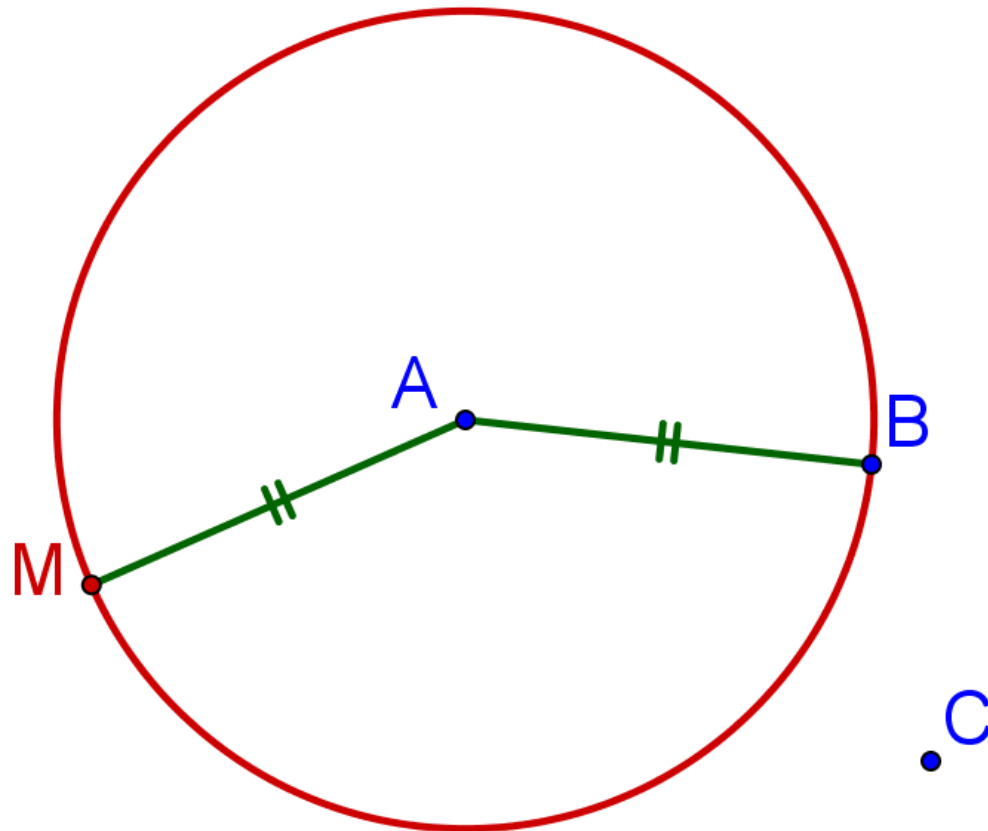
A.

B.

C.

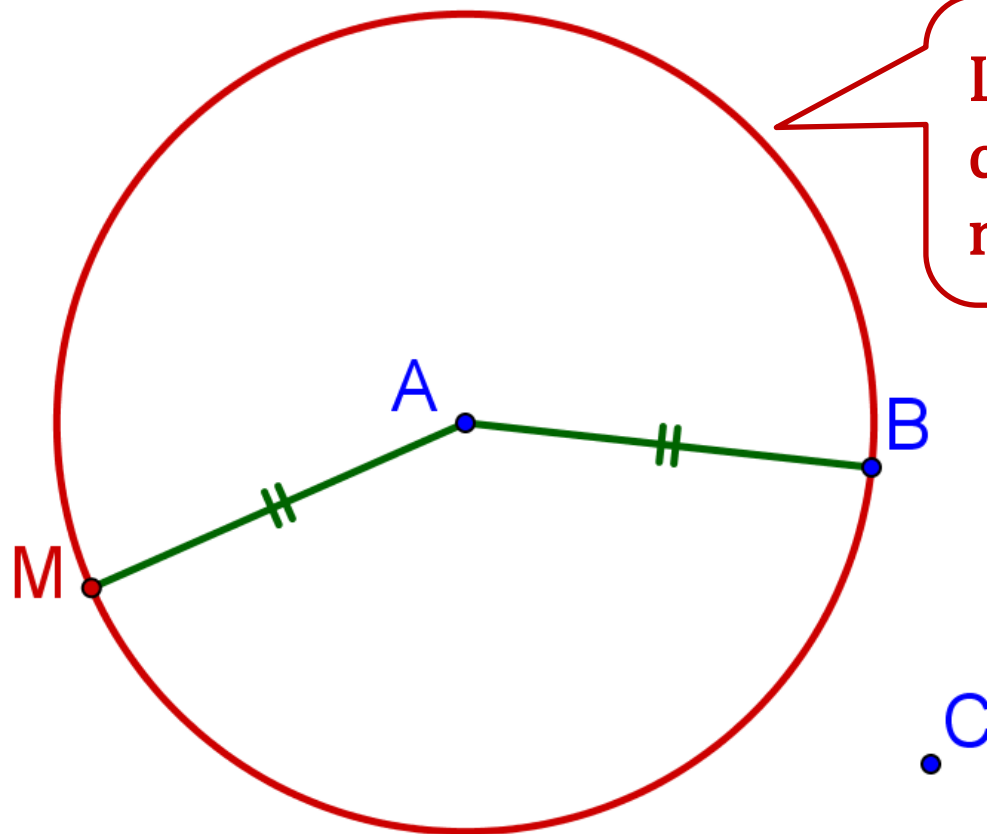
Nº2

$$AM = AB$$



N°2

$$AM = AB$$



Nº3

$$AM^2 = BC^2$$

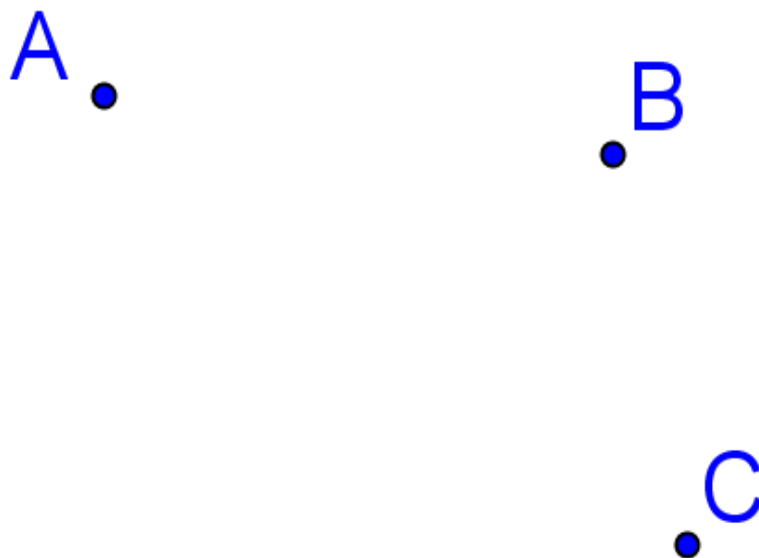
A.

B.

C.

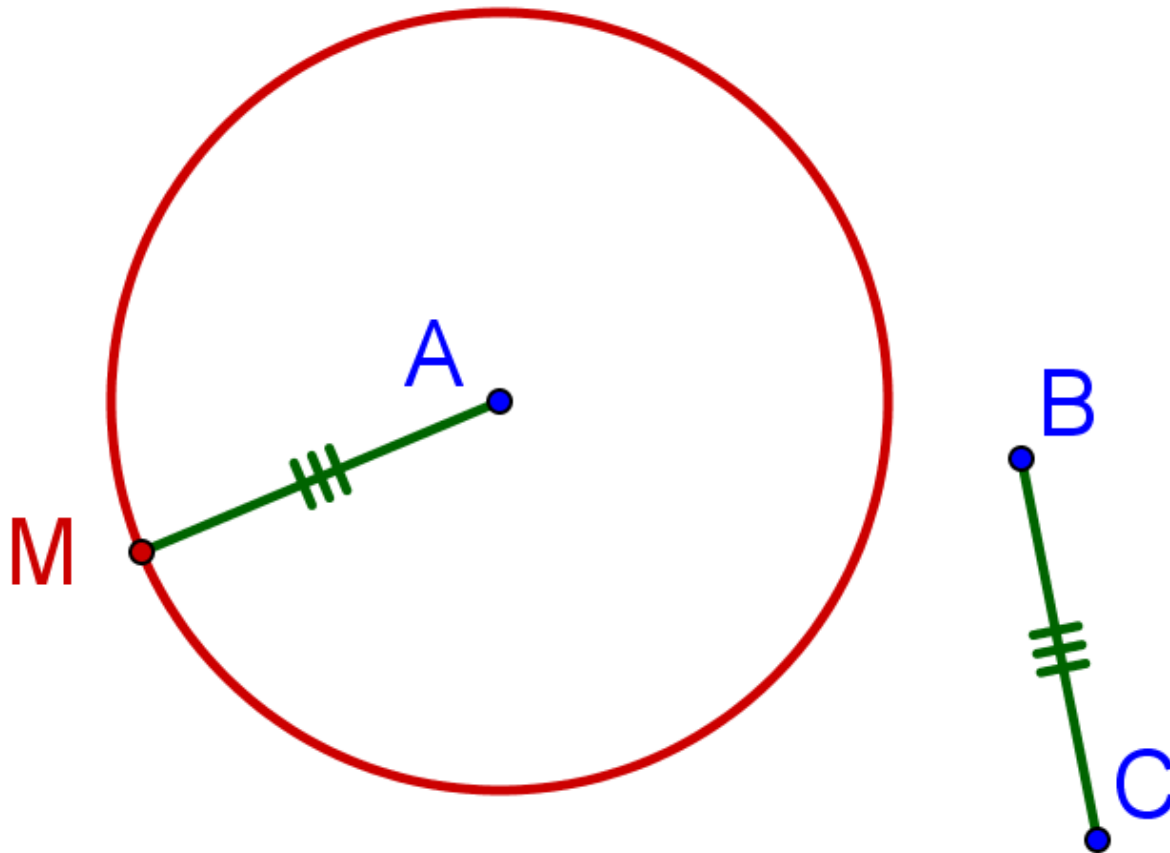
N°3

$$AM^2 = BC^2 \Leftrightarrow AM = BC$$



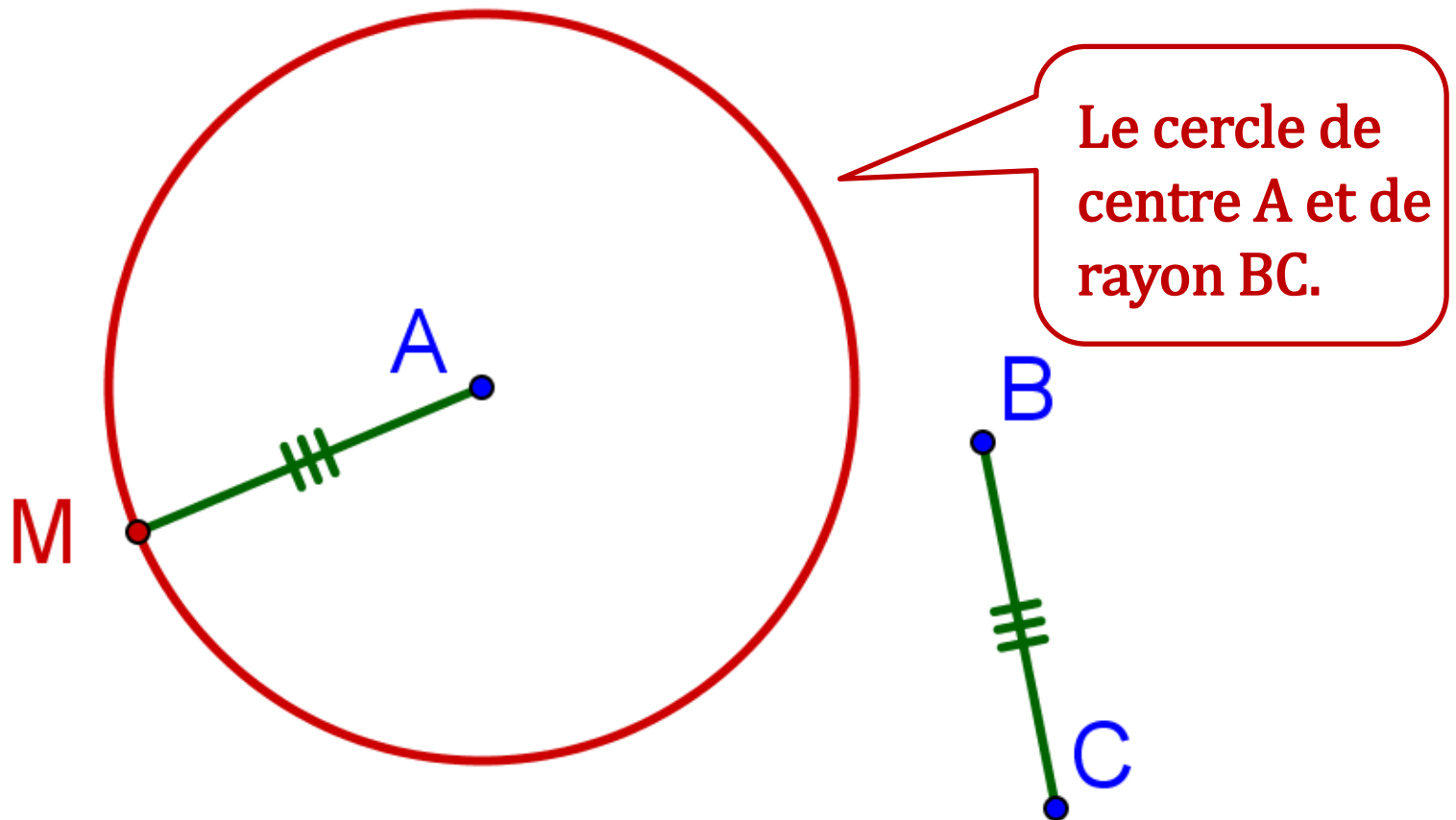
Nº3

$$AM^2 = BC^2 \Leftrightarrow AM = BC$$



N°3

$$AM^2 = BC^2 \Leftrightarrow AM = BC$$



Nº4

$$(MB + MC)(MB - MC) = 0$$

A.

B.

C.

Nº4

$$(MB + MC)(MB - MC) = 0$$

$$\Leftrightarrow MB = MC$$

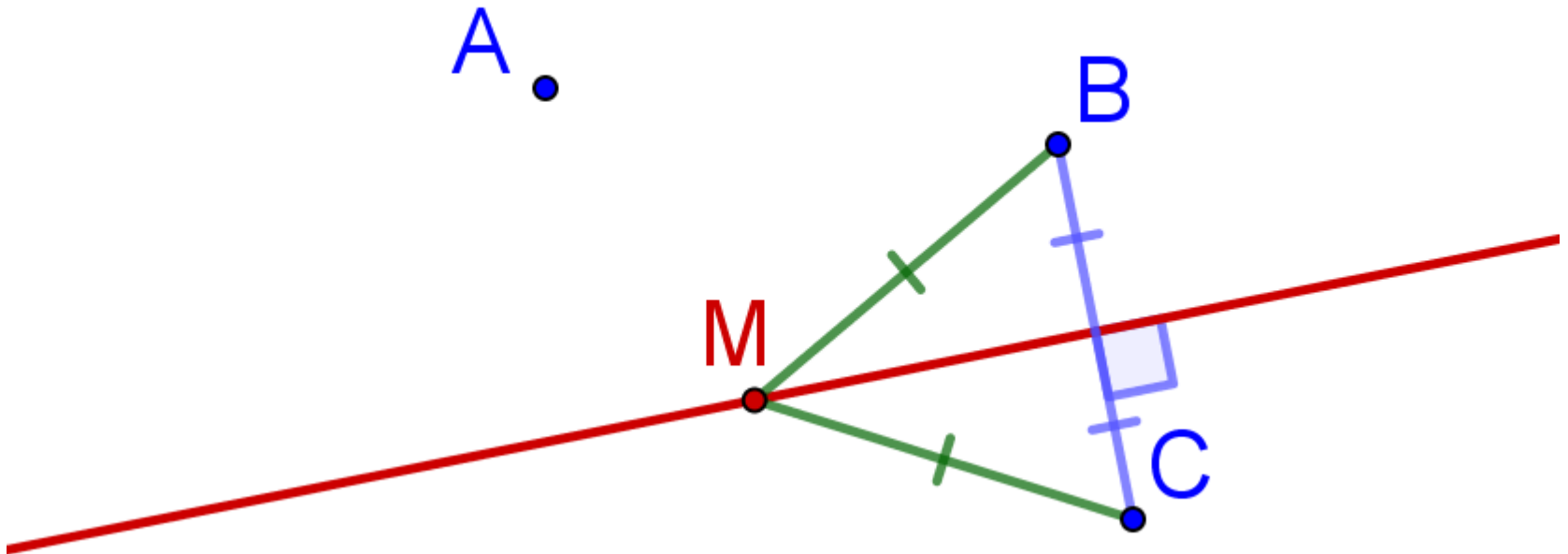
A.

B.

C.

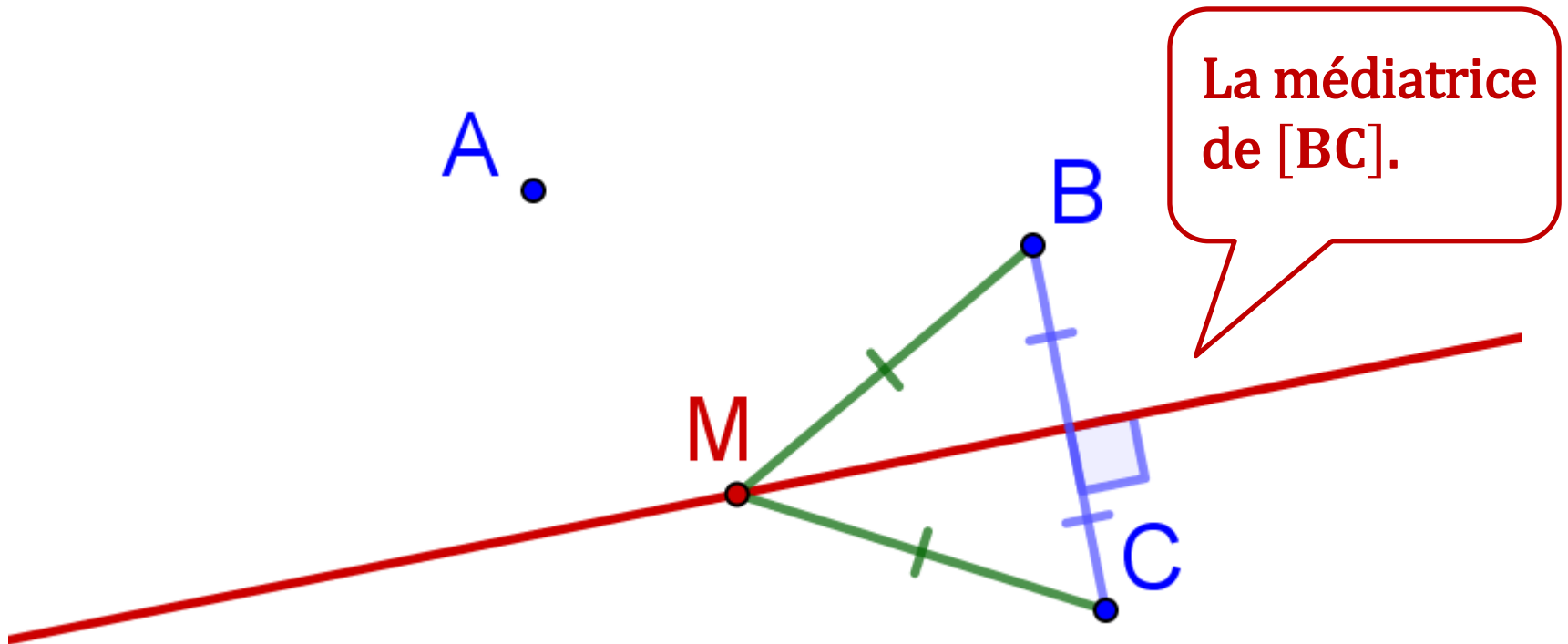
Nº4

$$(MB + MC)(MB - MC) = 0$$
$$\Leftrightarrow MB = MC$$



N°4

$$(MB + MC)(MB - MC) = 0$$
$$\Leftrightarrow MB = MC$$



Nº5

$$\overrightarrow{AM} = \overrightarrow{BC}$$

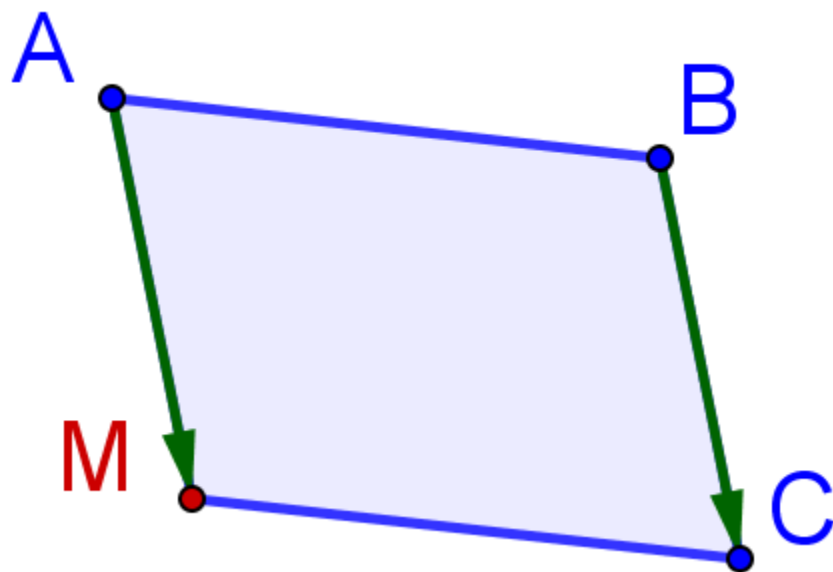
A.

B.

C.

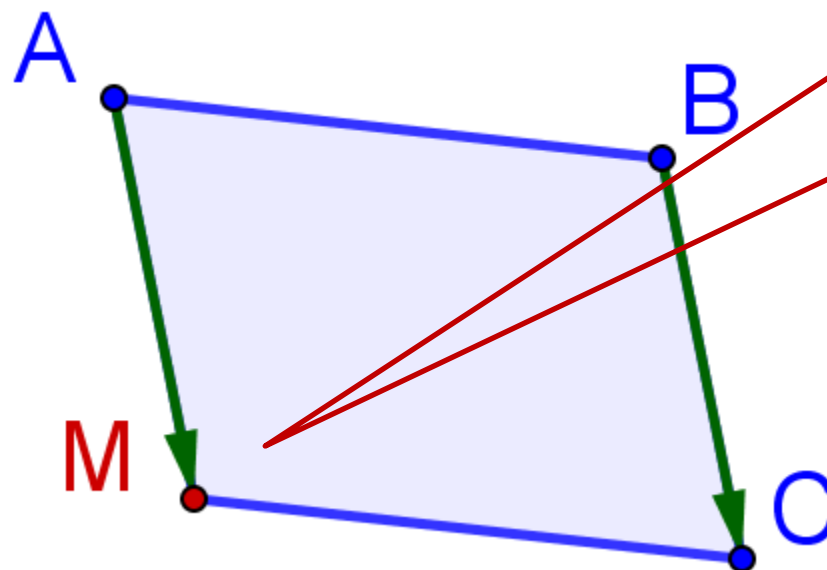
Nº5

$$\overrightarrow{AM} = \overrightarrow{BC}$$



N°5

$$\overrightarrow{AM} = \overrightarrow{BC}$$



Le quatrième
sommet du
parallélogramme
ABCM.

Nº6

$$\overrightarrow{AM} = \overrightarrow{MC}$$

A •

• B

• C

N°6

$$\overrightarrow{AM} = \overrightarrow{MC}$$

\Leftrightarrow M est le milieu de $[AC]$

A •

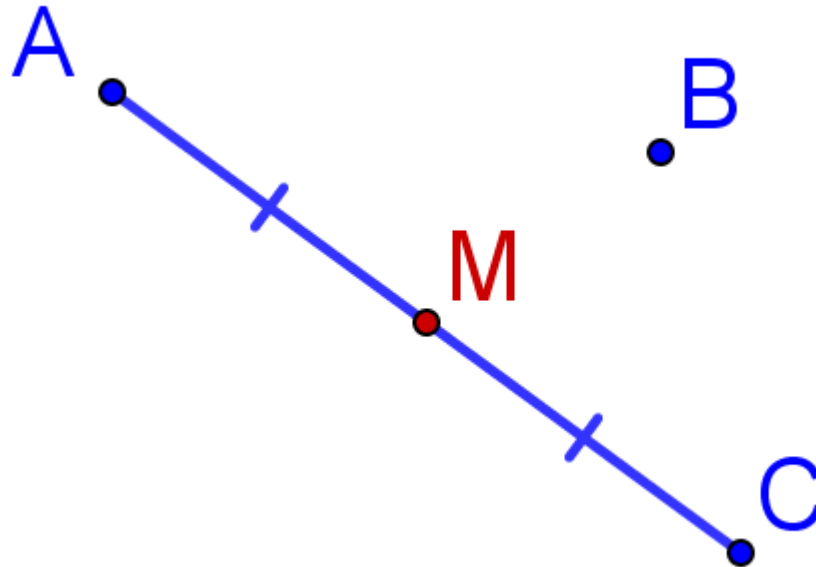
• B

• C

N°6

$$\overrightarrow{AM} = \overrightarrow{MC}$$

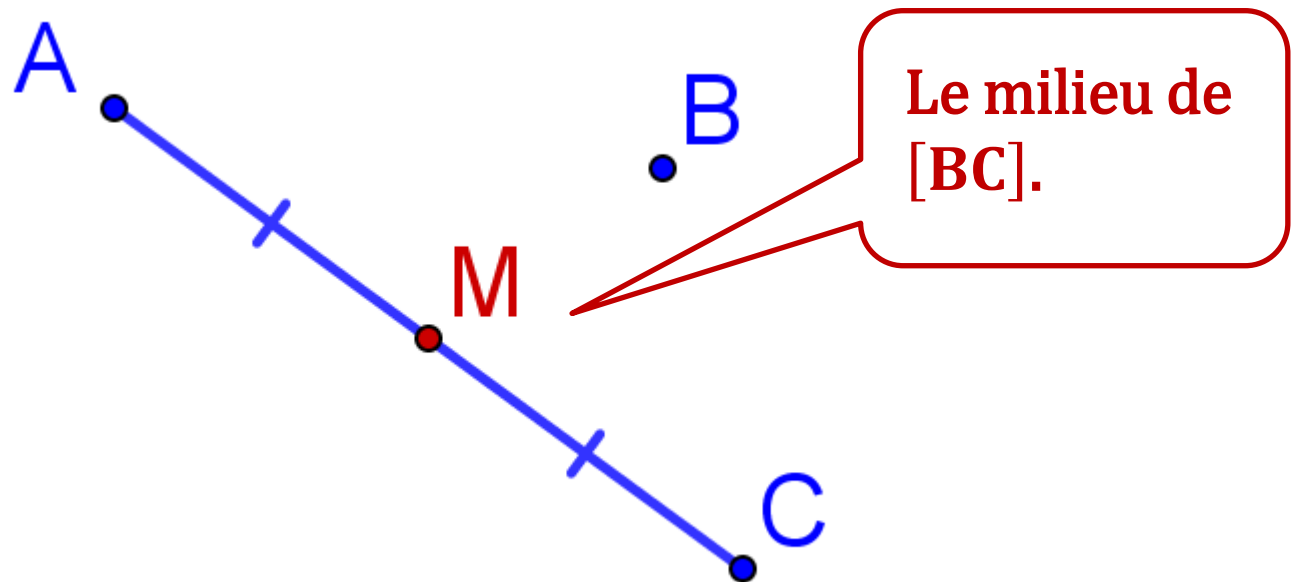
\Leftrightarrow M est le milieu de $[AC]$



N°6

$$\overrightarrow{AM} = \overrightarrow{MC}$$

\Leftrightarrow M est le milieu de $[AC]$



Nº7

$$\overrightarrow{AM} \cdot \overrightarrow{AB} = 0$$

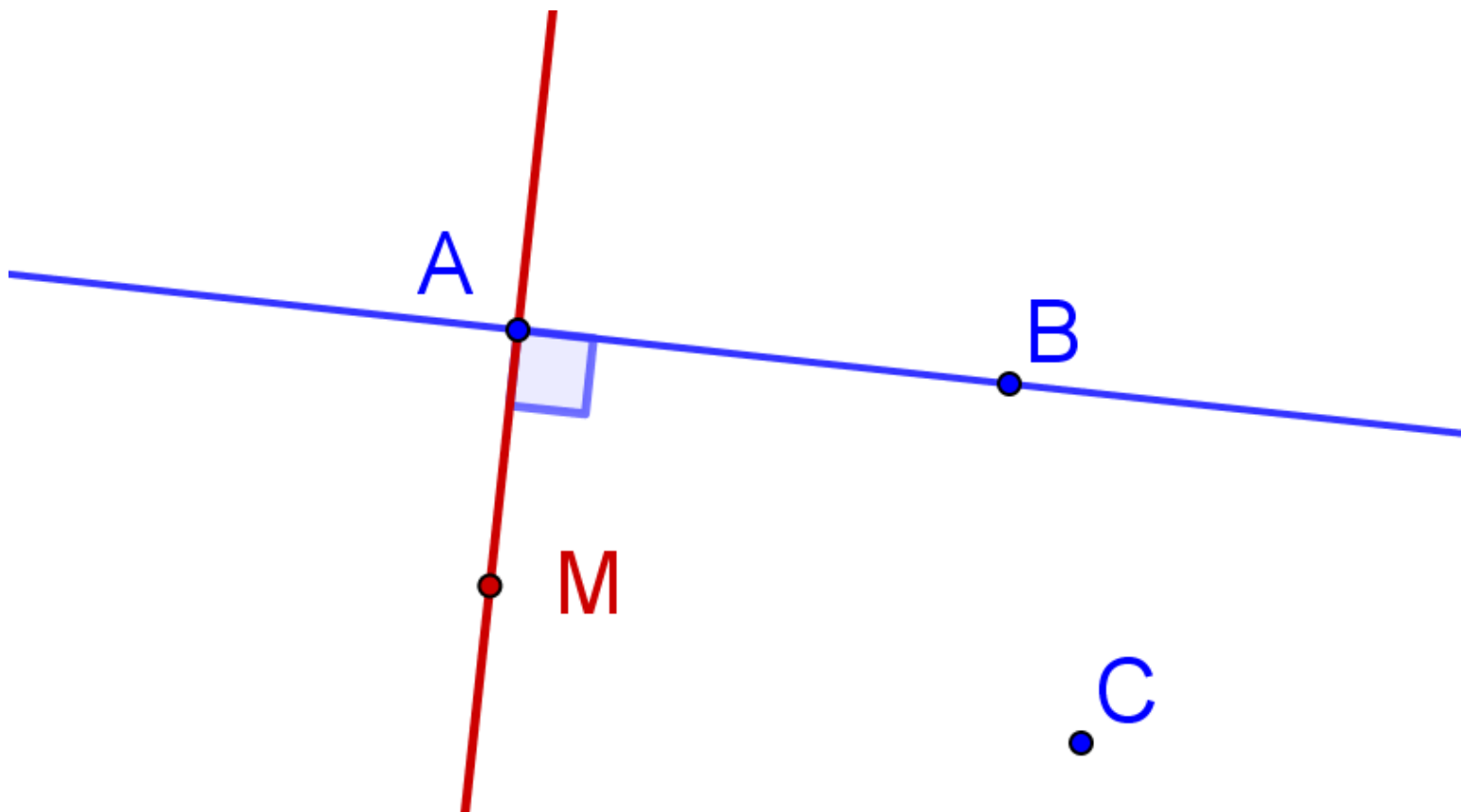
A.

.B

.C

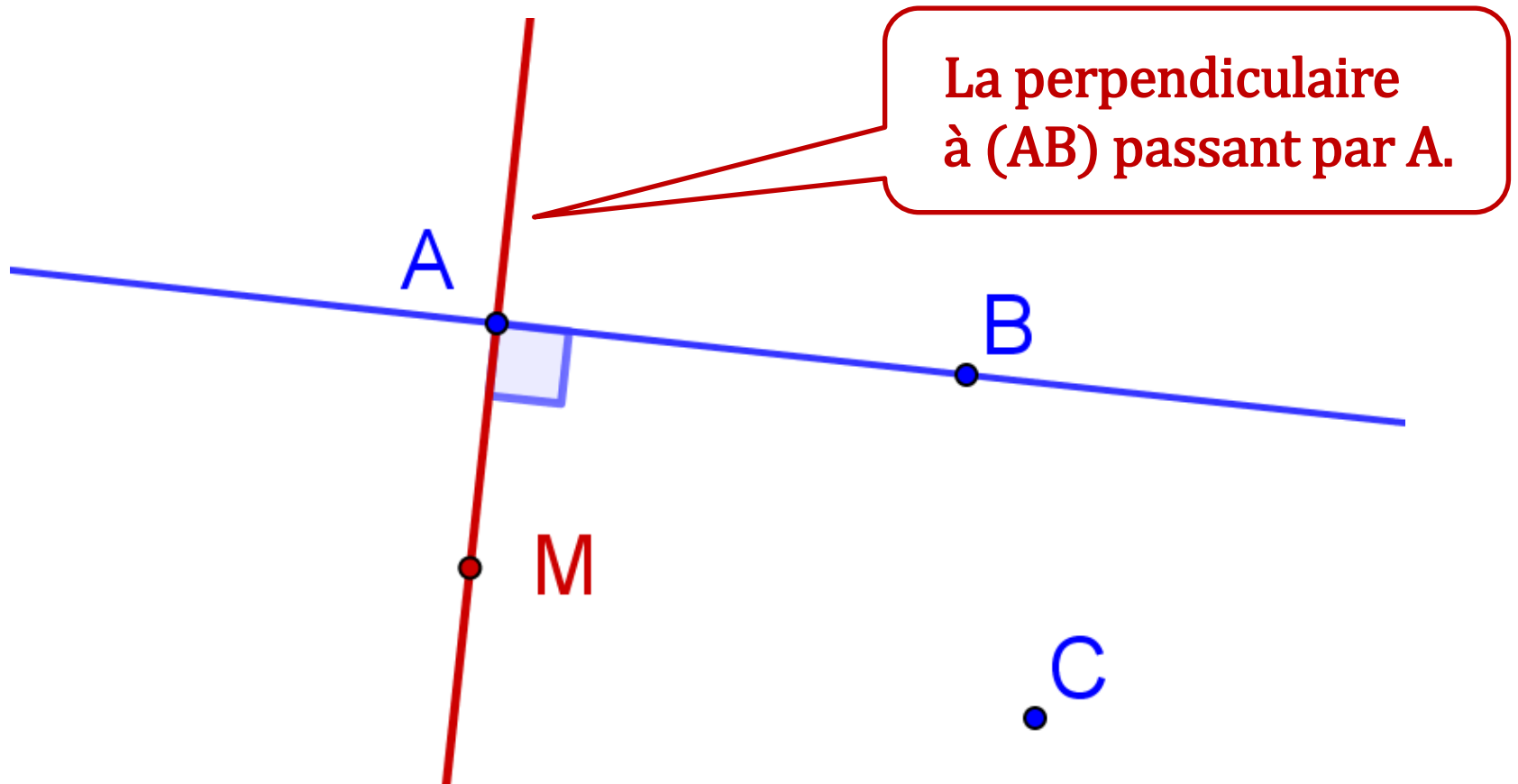
Nº7

$$\overrightarrow{AM} \cdot \overrightarrow{AB} = 0$$



N°7

$$\overrightarrow{AM} \cdot \overrightarrow{AB} = 0$$



N°8

\overrightarrow{MA} et \overrightarrow{MB} sont orthogonaux

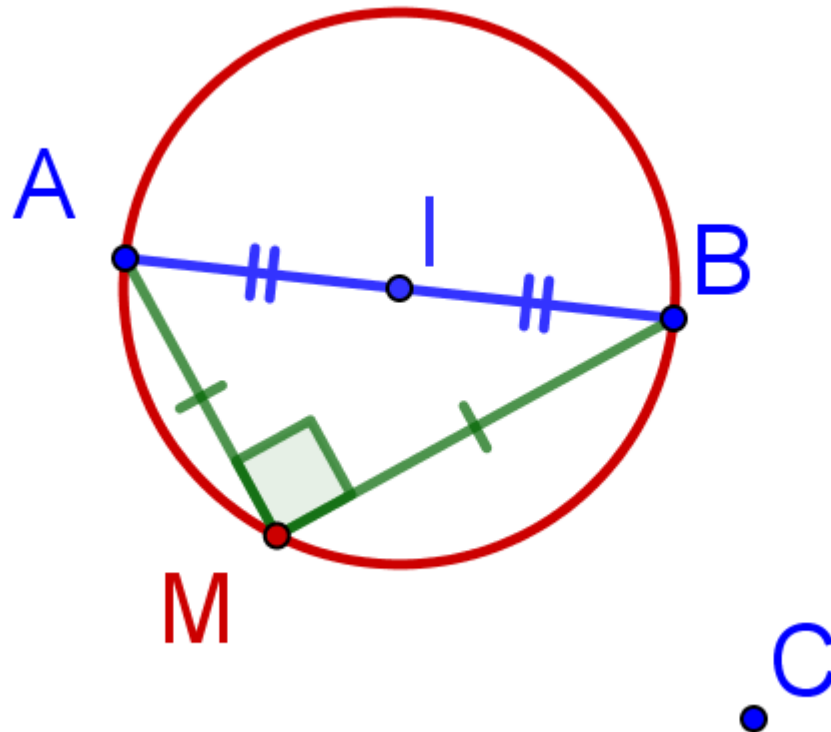
A.

B.

C.

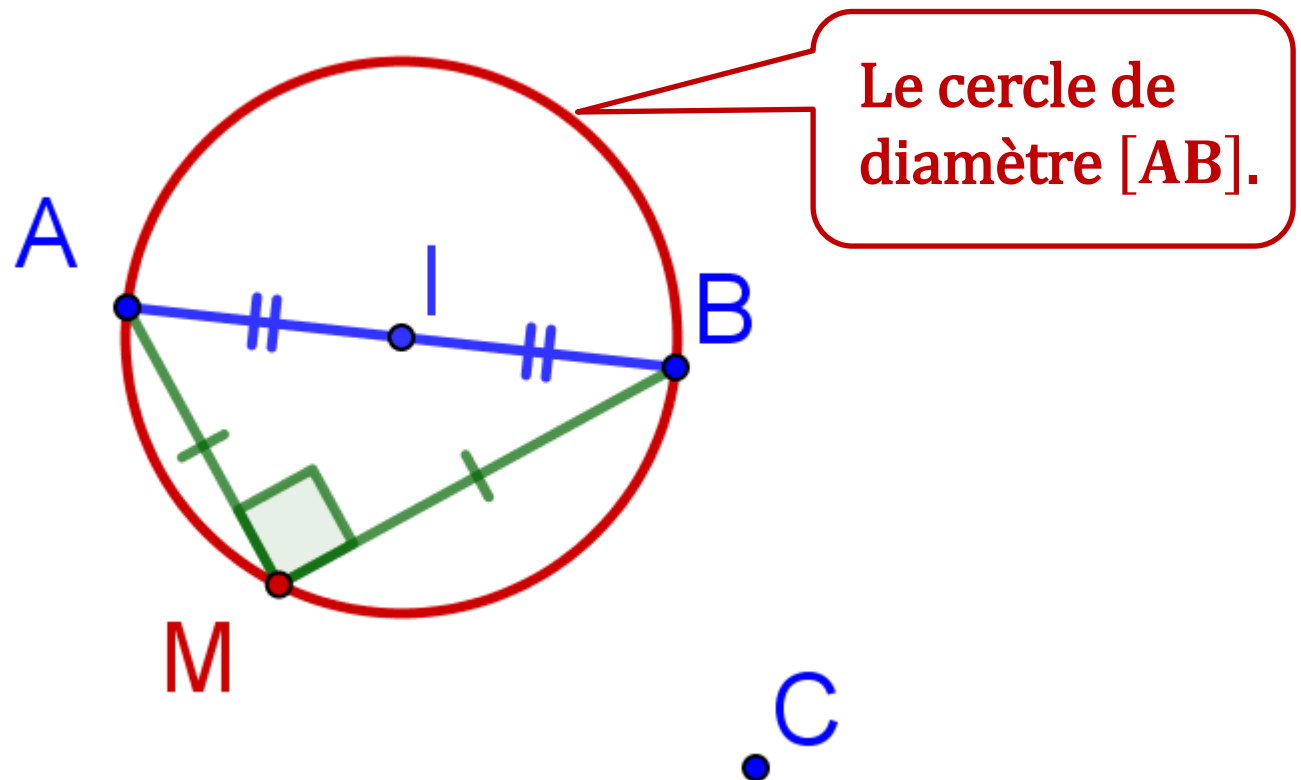
N°8

\overrightarrow{MA} et \overrightarrow{MB} sont orthogonaux



N°8

\overrightarrow{MA} et \overrightarrow{MB} sont orthogonaux



N°9

$$\overrightarrow{MA} \cdot \overrightarrow{BC} = 0$$

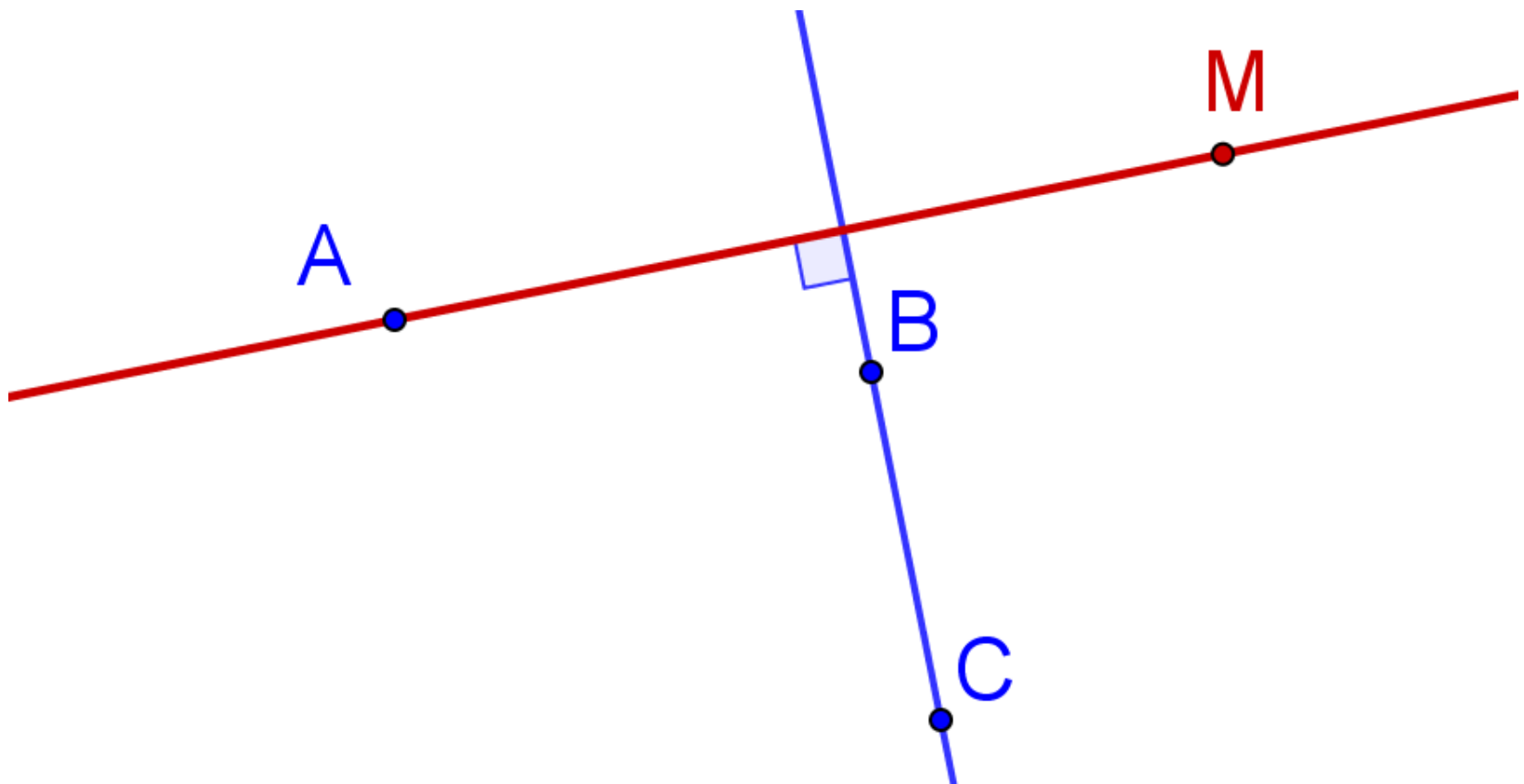
A •

• B

• C

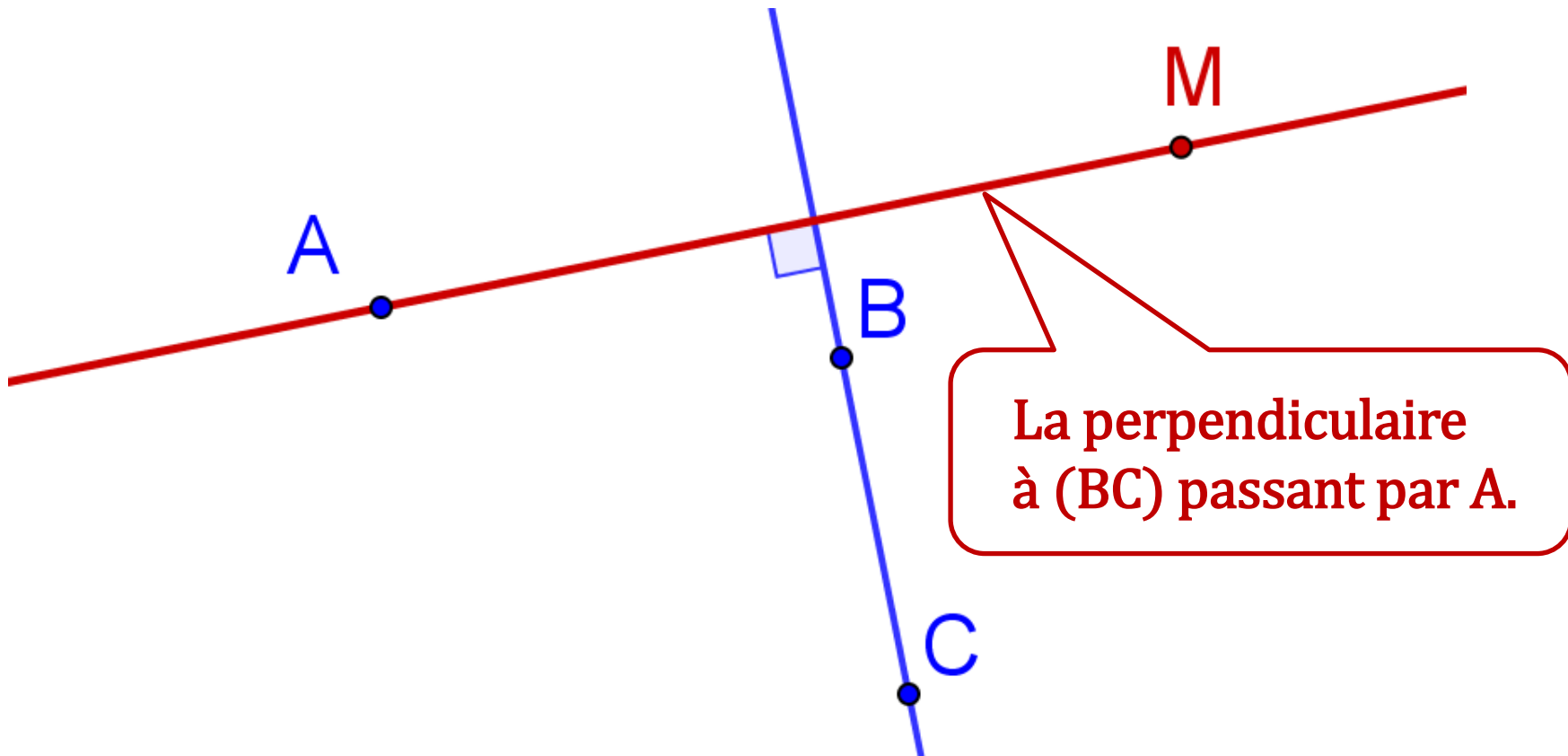
Nº9

$$\overrightarrow{MA} \cdot \overrightarrow{BC} = 0$$



N°9

$$\overrightarrow{MA} \cdot \overrightarrow{BC} = 0$$



Nº10

$$\overrightarrow{MA} \cdot \overrightarrow{MC} = 0$$

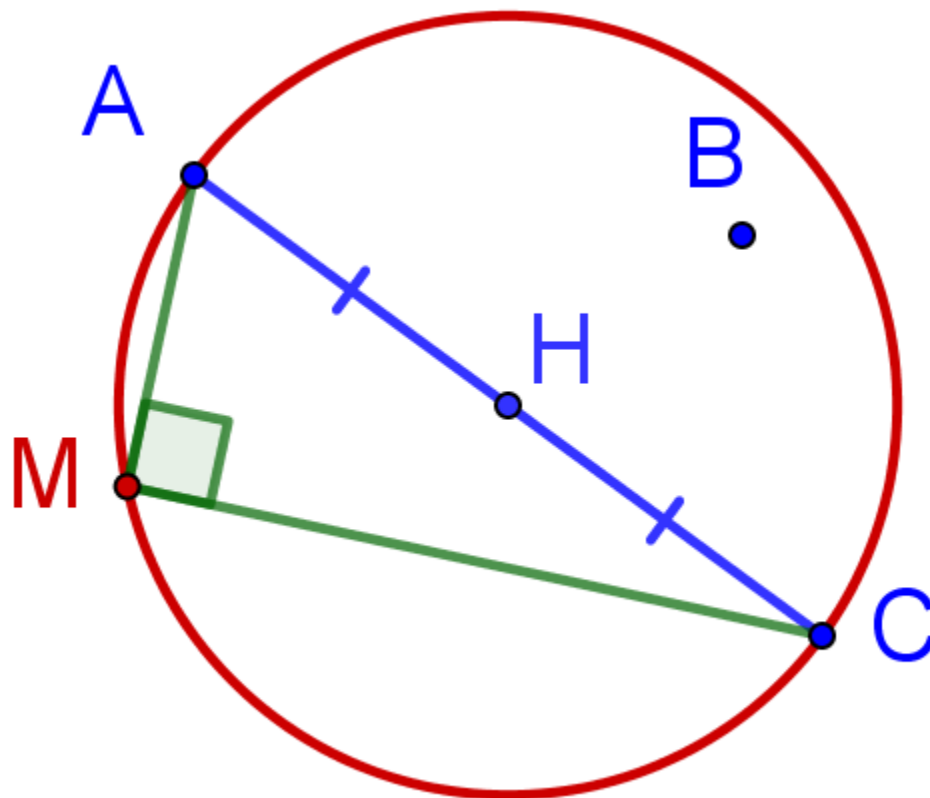
A.

B.

C.

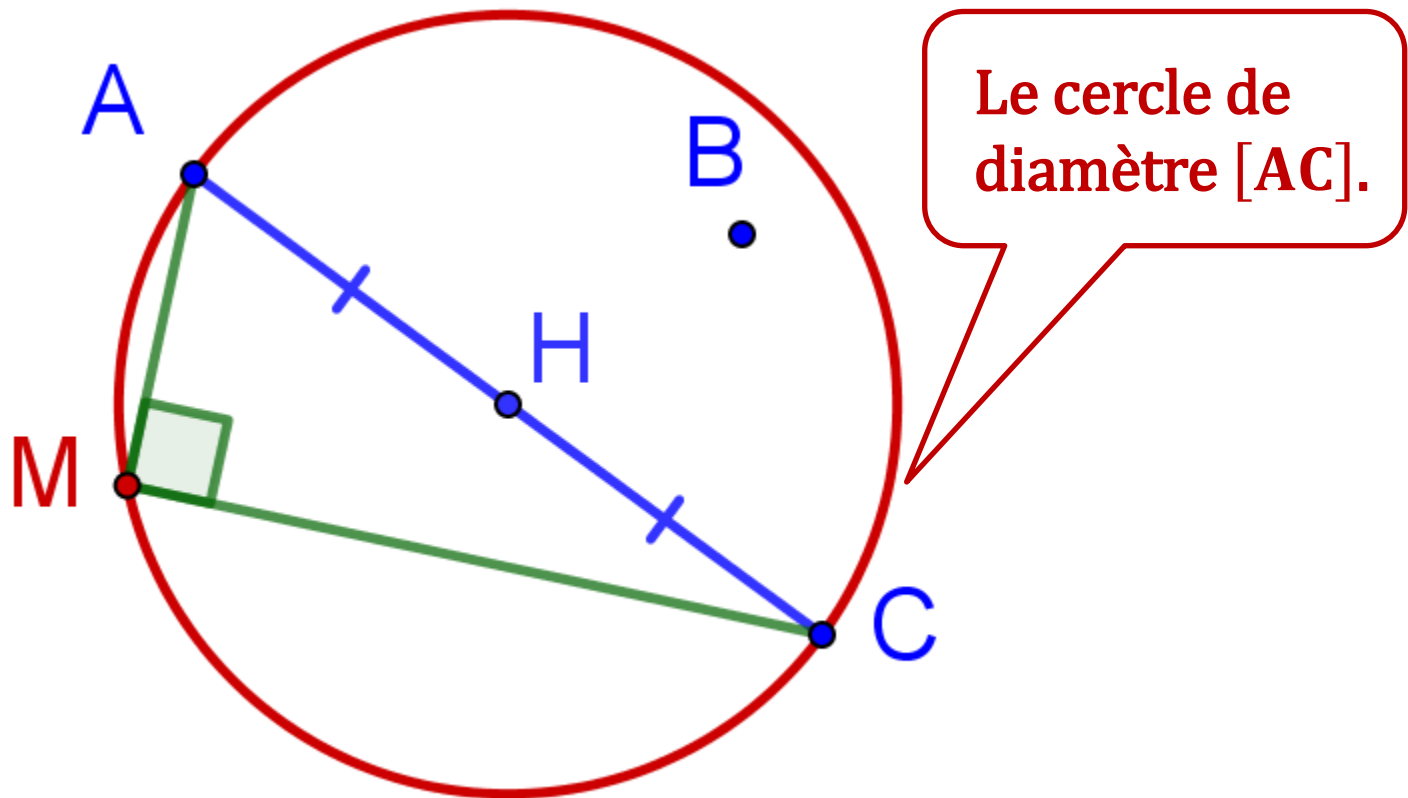
Nº10

$$\overrightarrow{MA} \cdot \overrightarrow{MC} = 0$$



N°10

$$\overrightarrow{MA} \cdot \overrightarrow{MC} = 0$$



FIN