



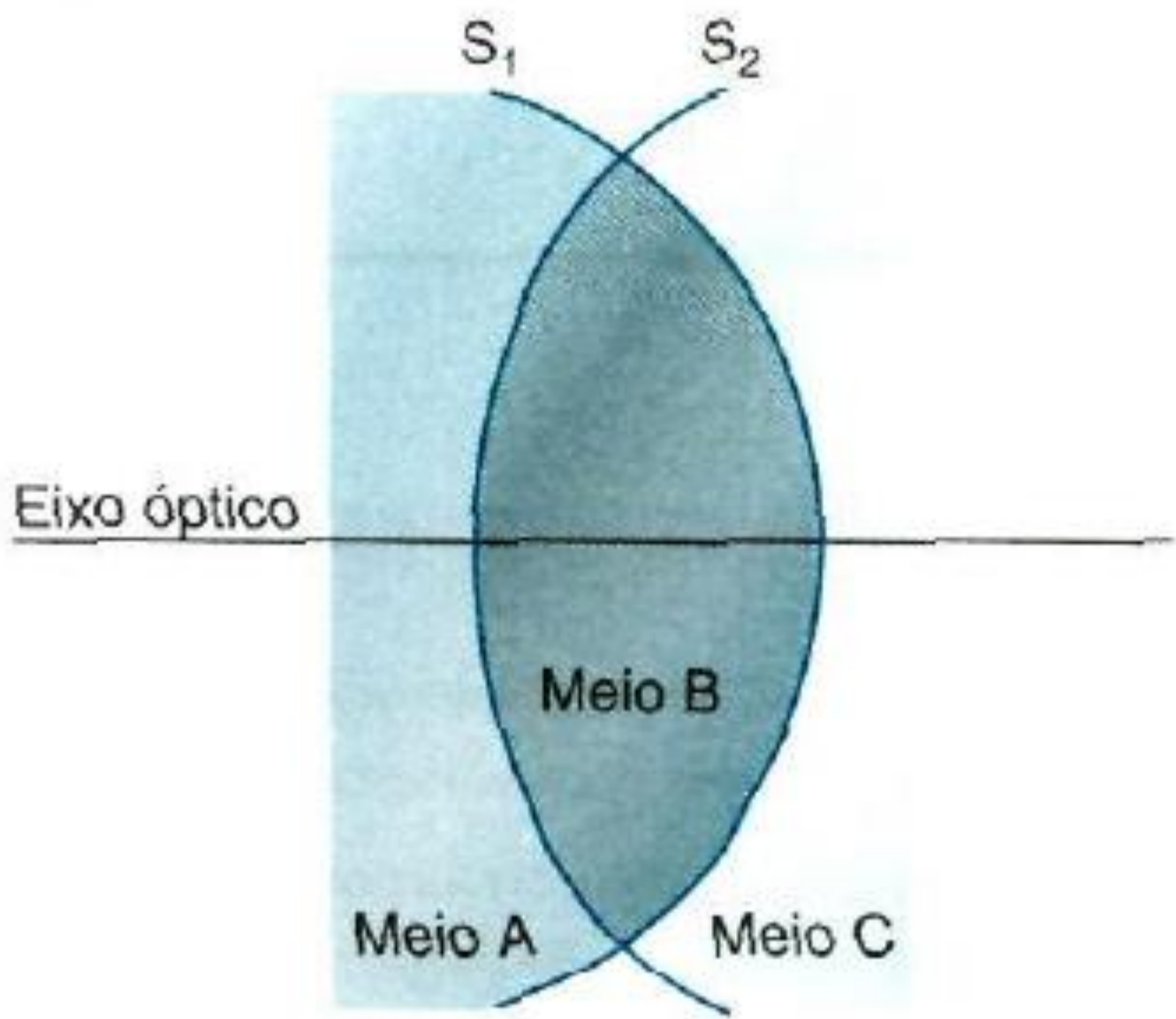
ÓPTICA

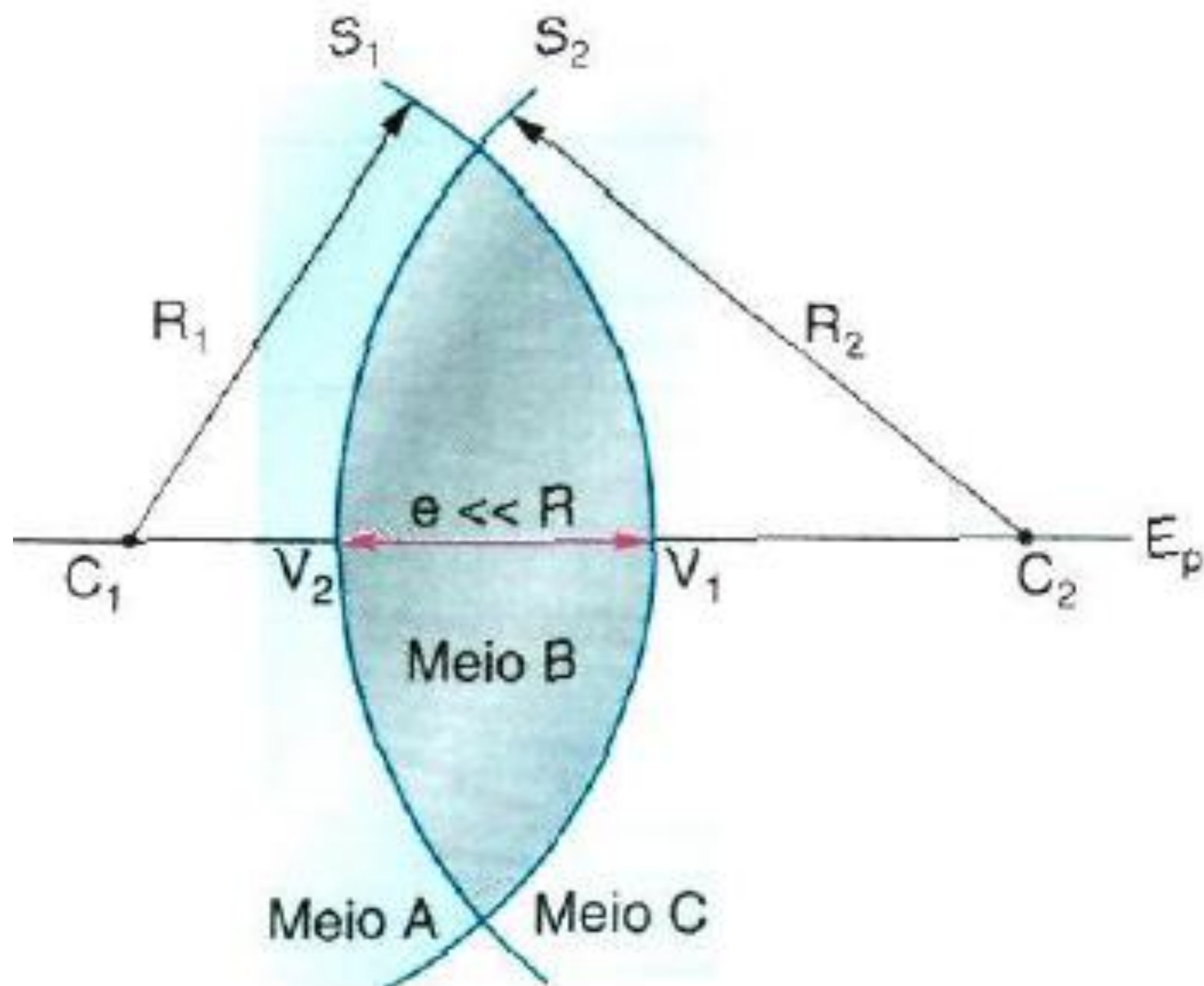
LENTES ESFÉRICAS





LENTES ESFÉRICAS







Biconvexa



Plano-convexa



Côncavo-convexa



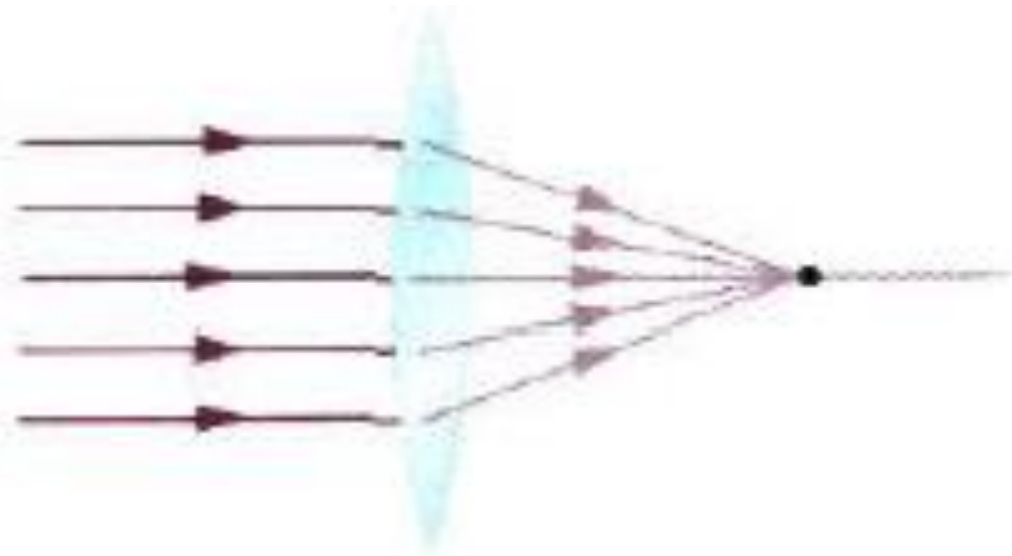
Bicôncava



Plano-côncava



Convexo-côncava



Lente convergente



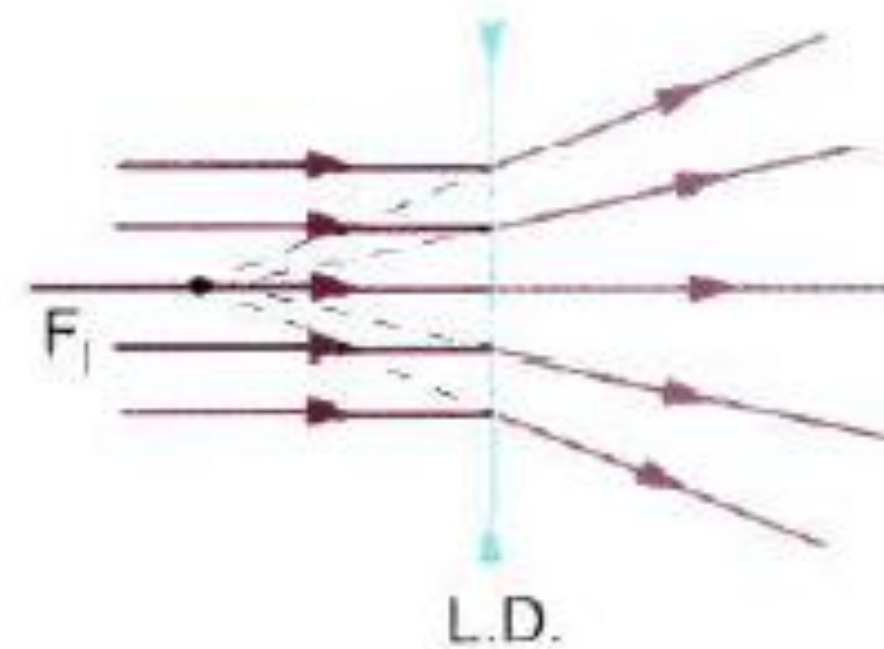
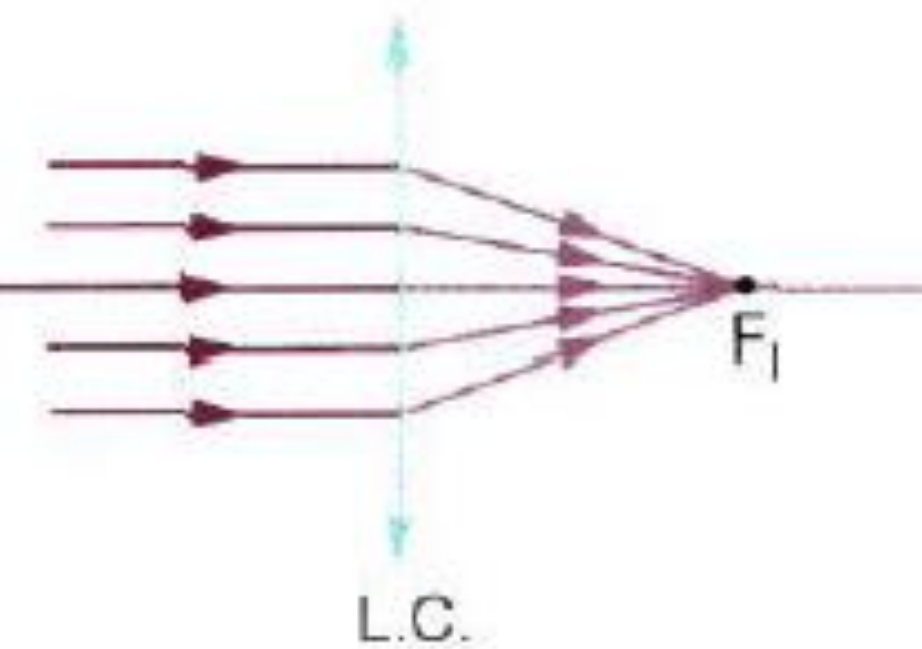
Lente divergente

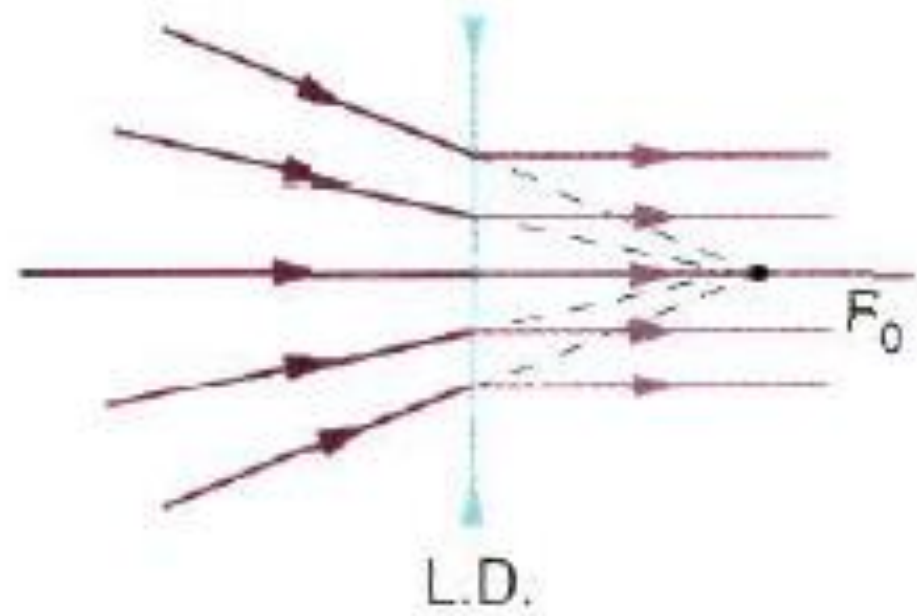
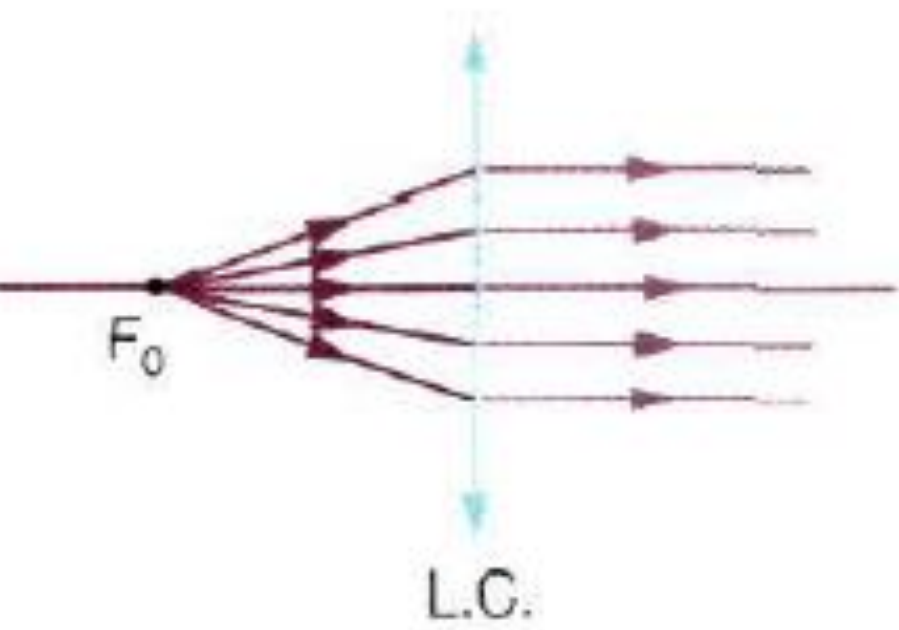


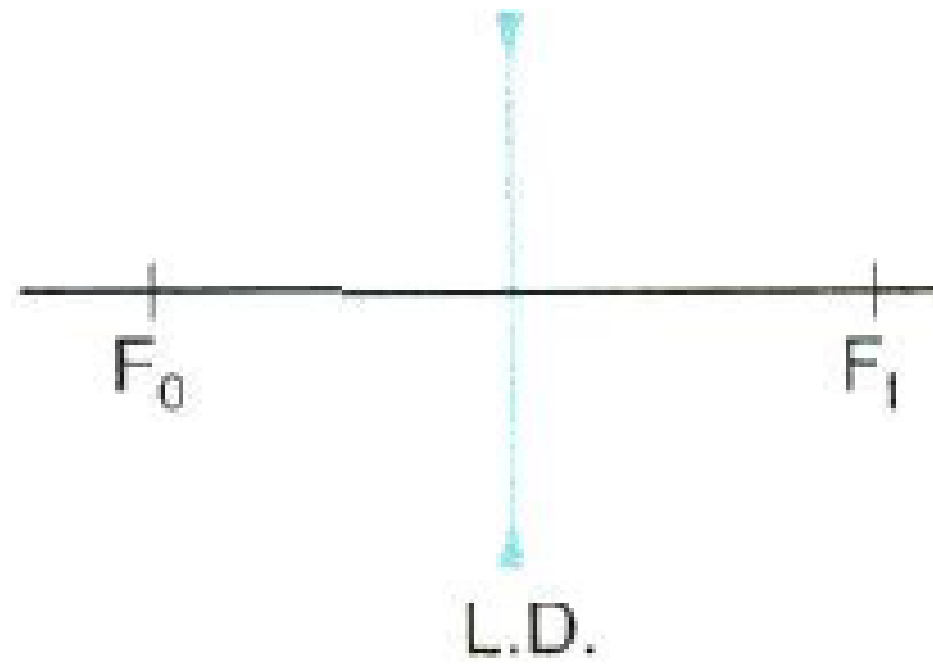
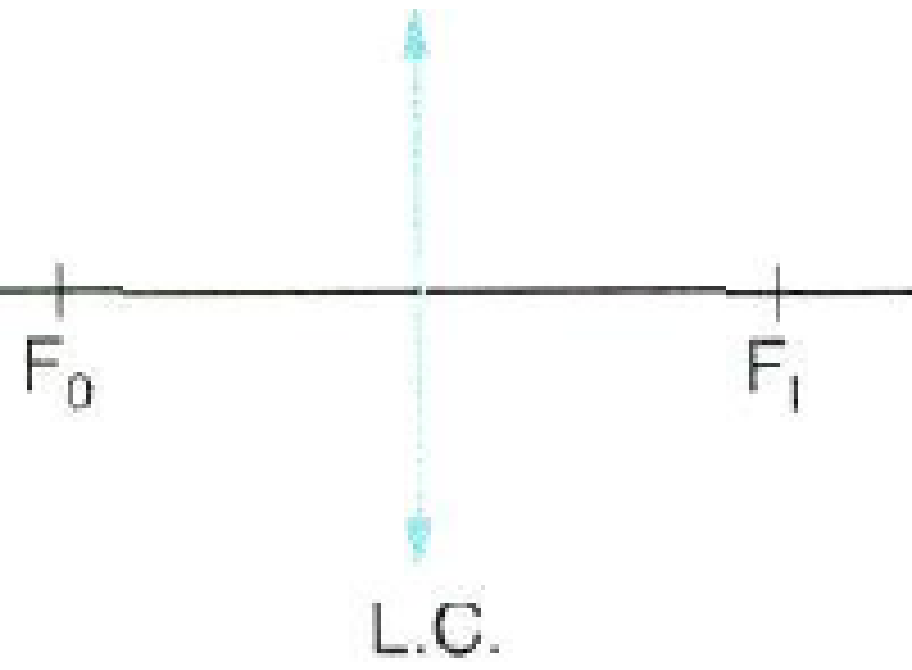
lente convergente

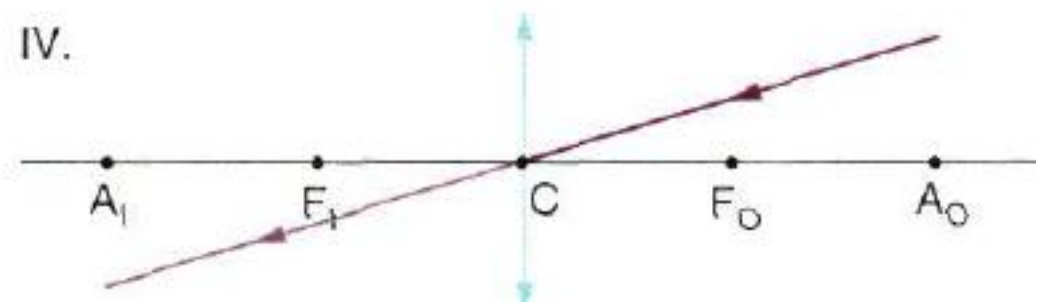
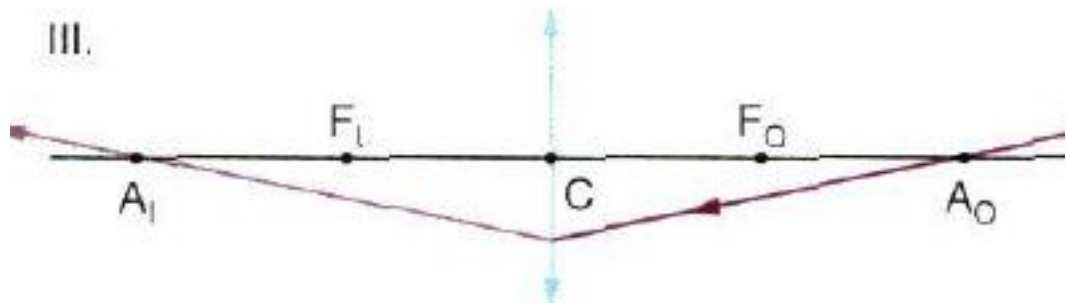
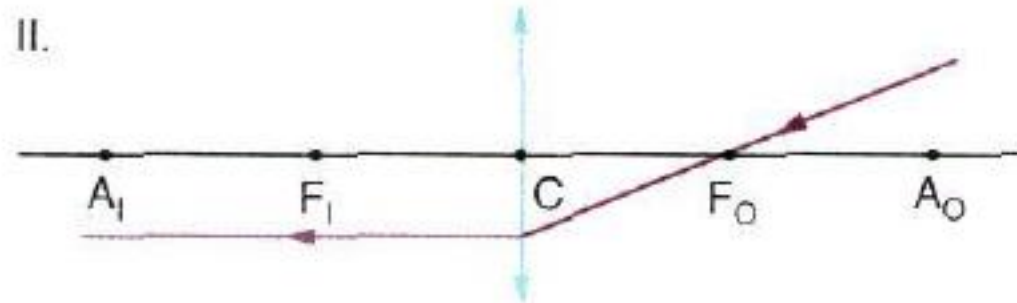
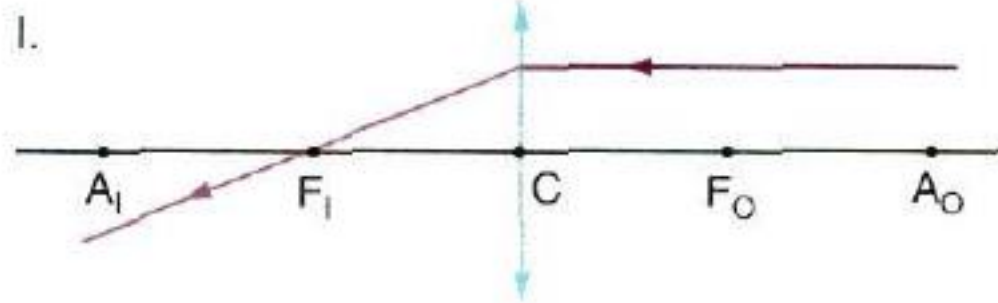


lente divergente







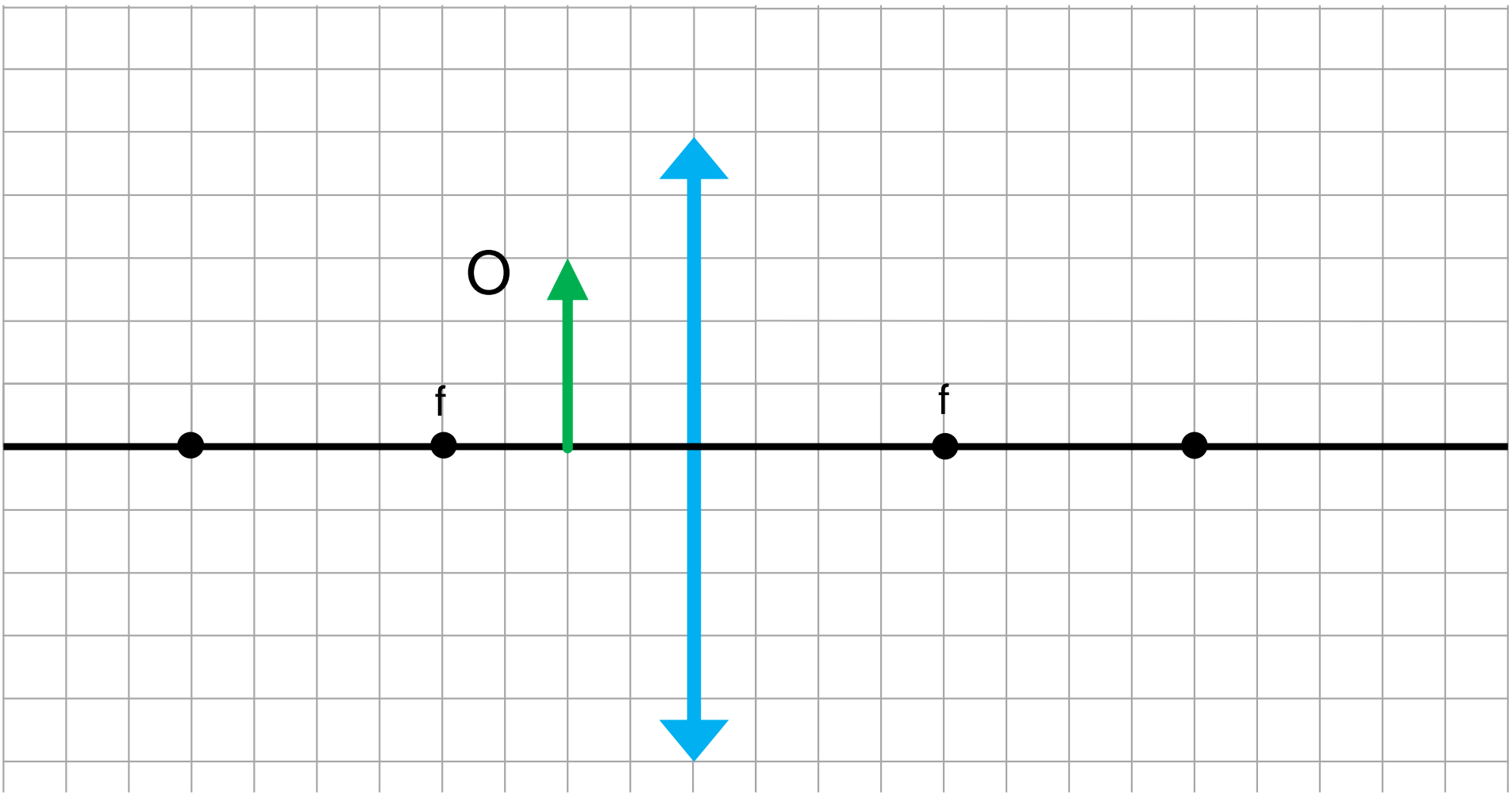


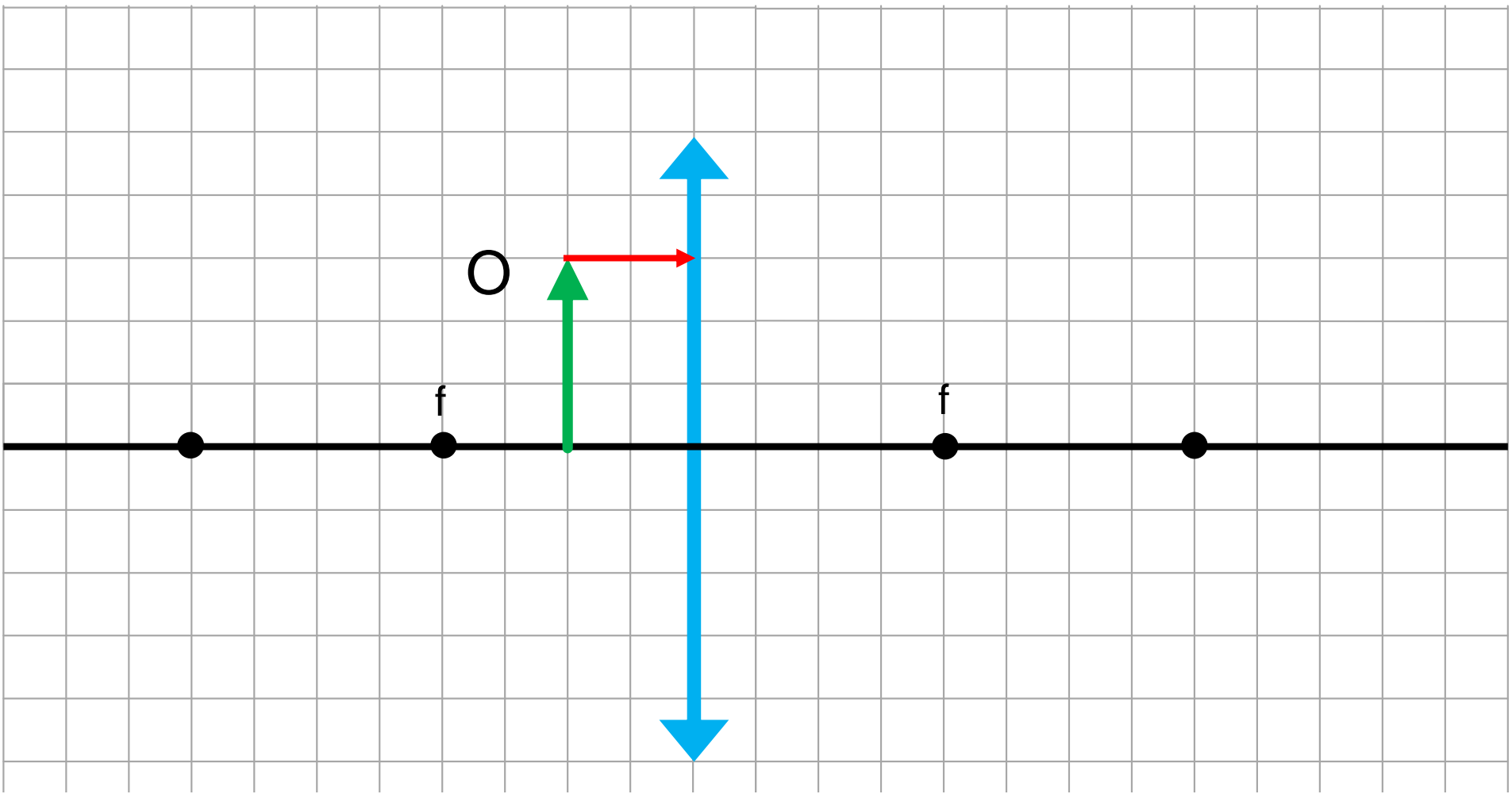


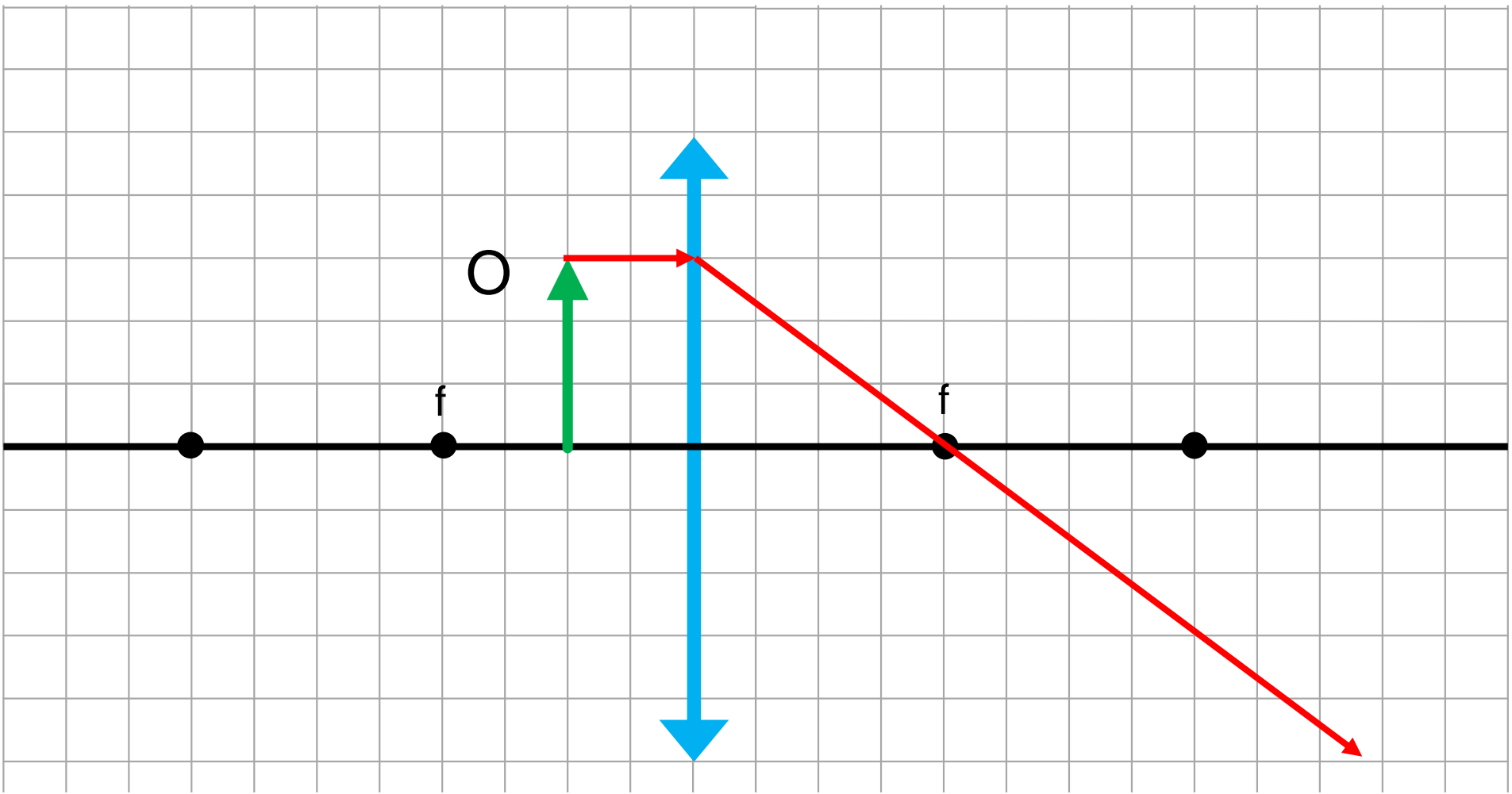
LENTE CONVERGENTE

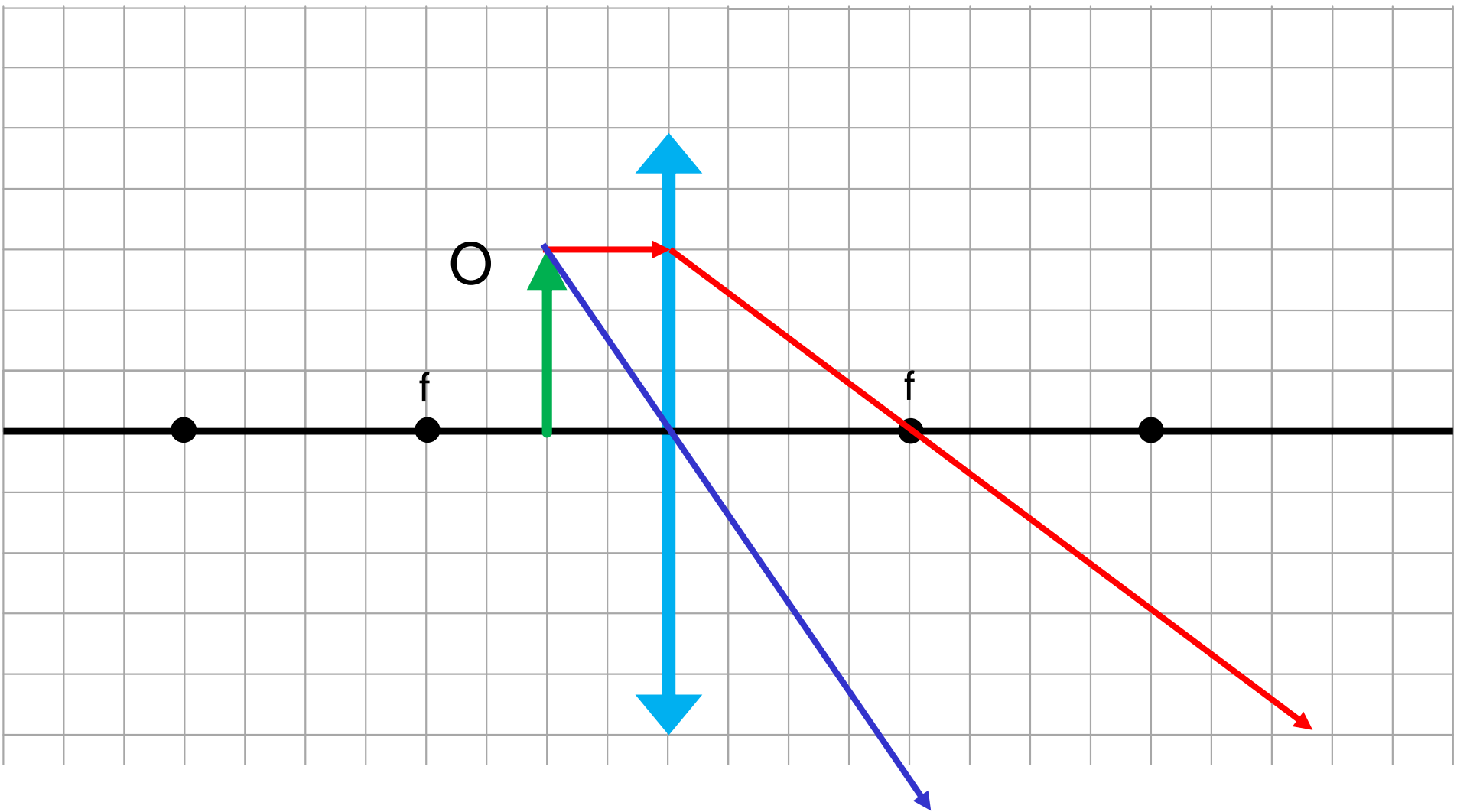


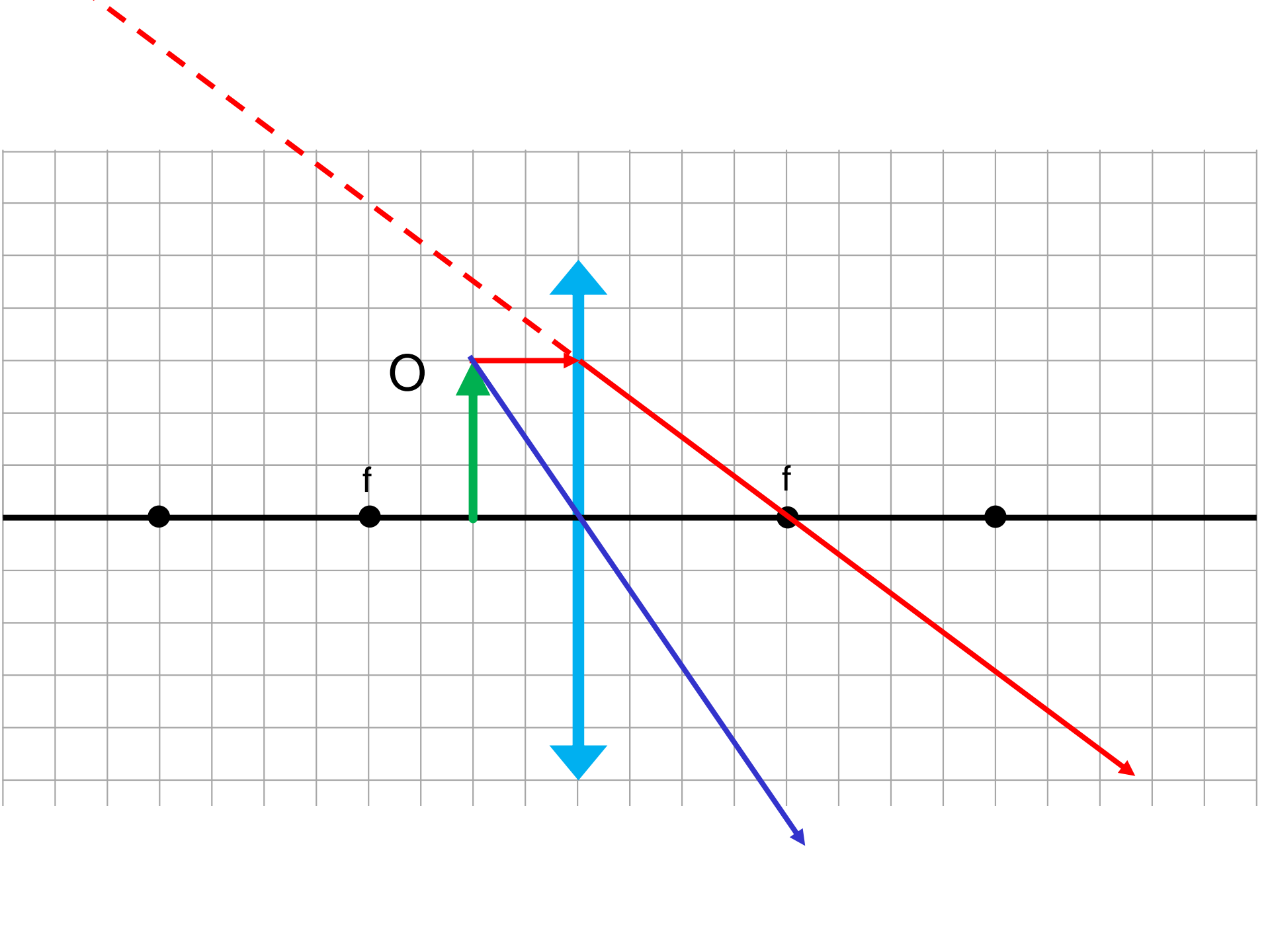
Primeiro caso

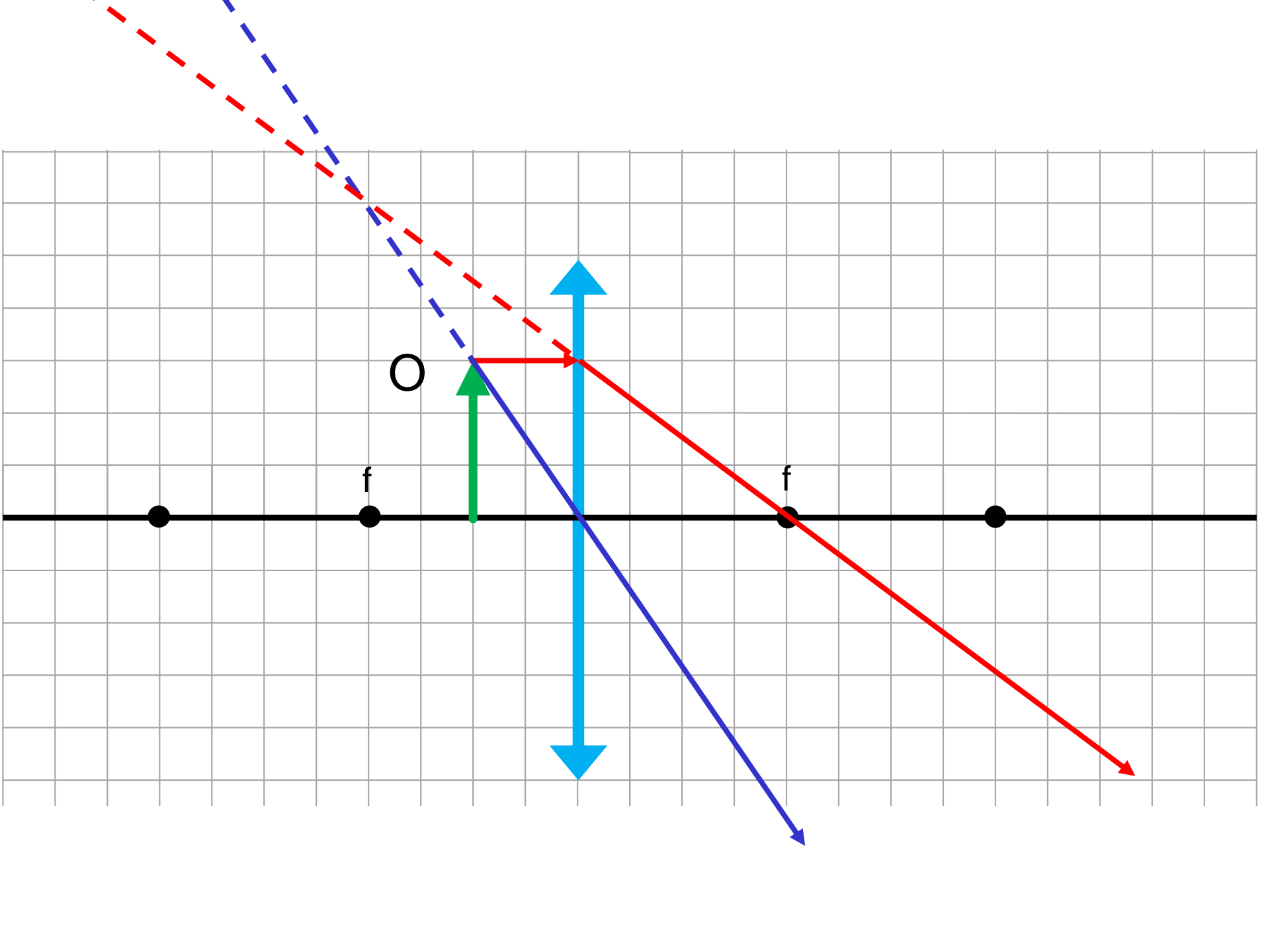


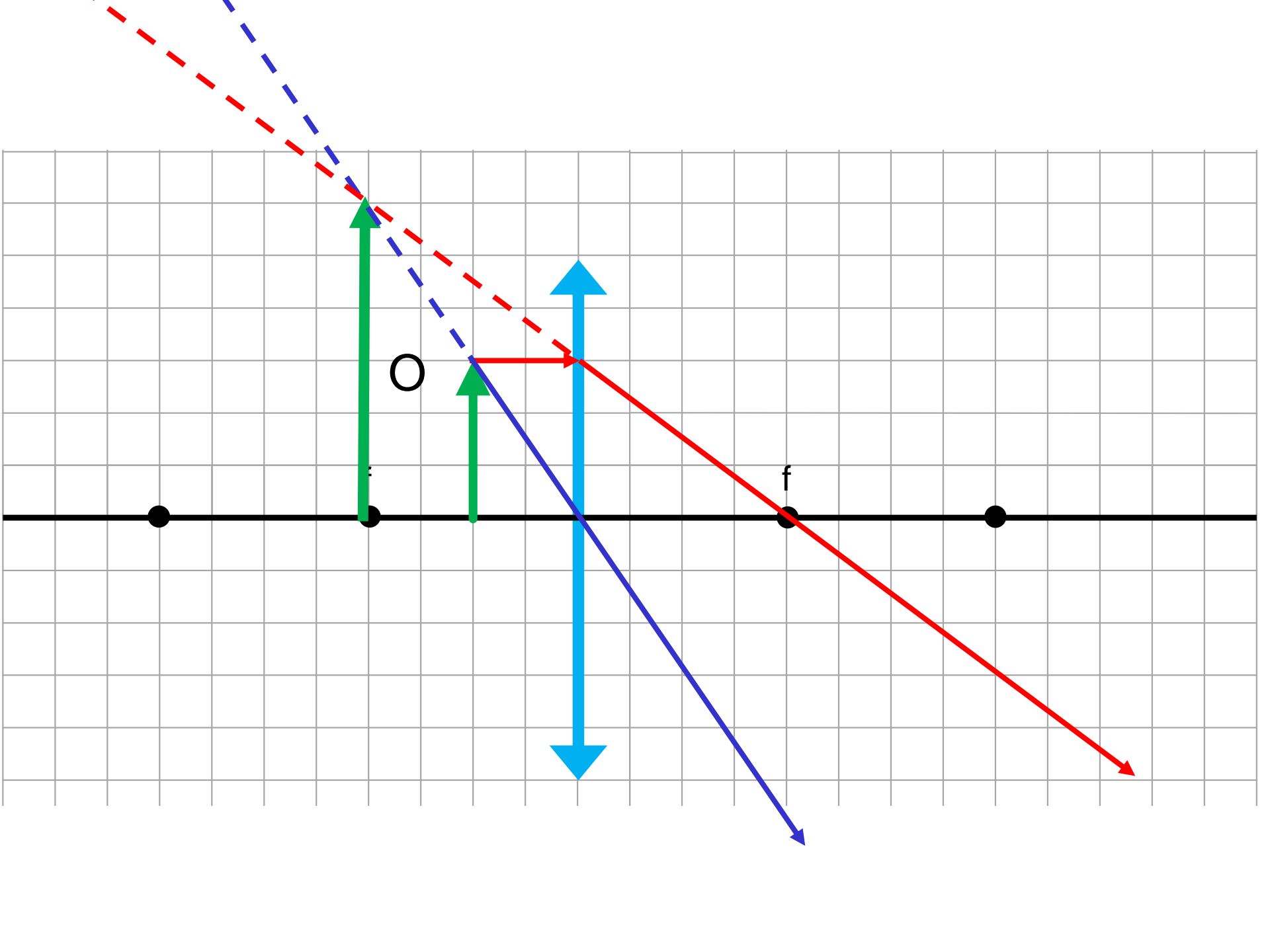


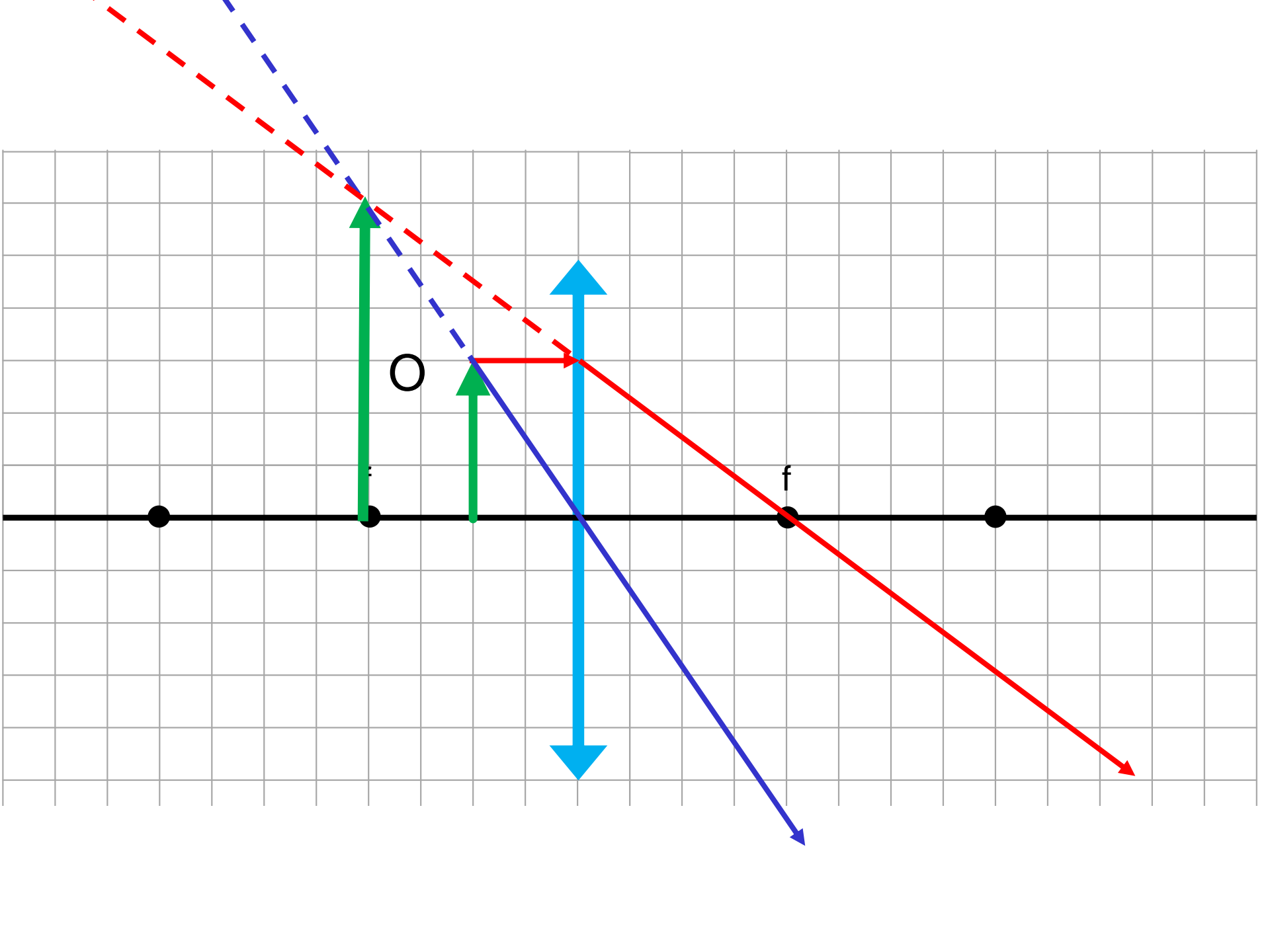




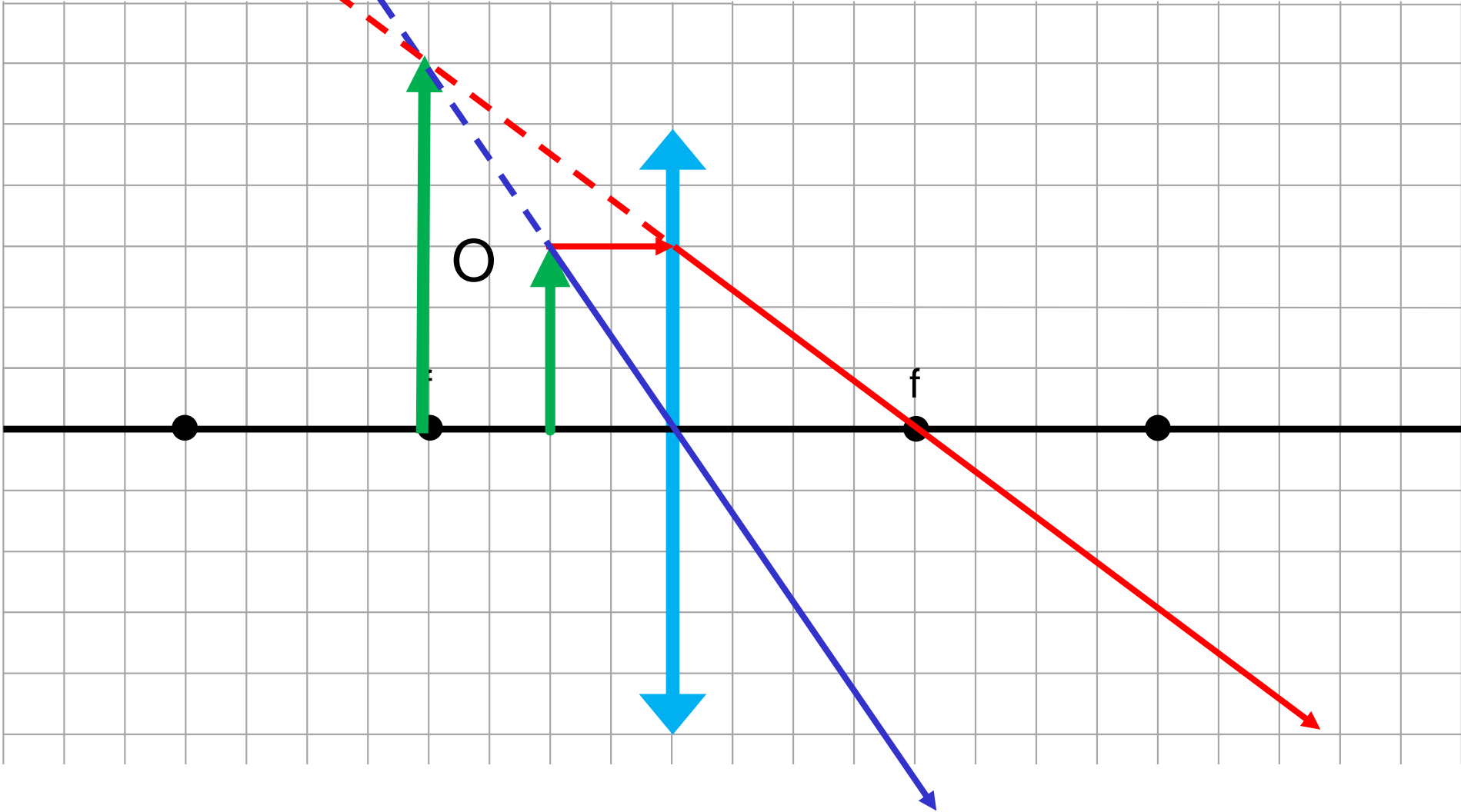








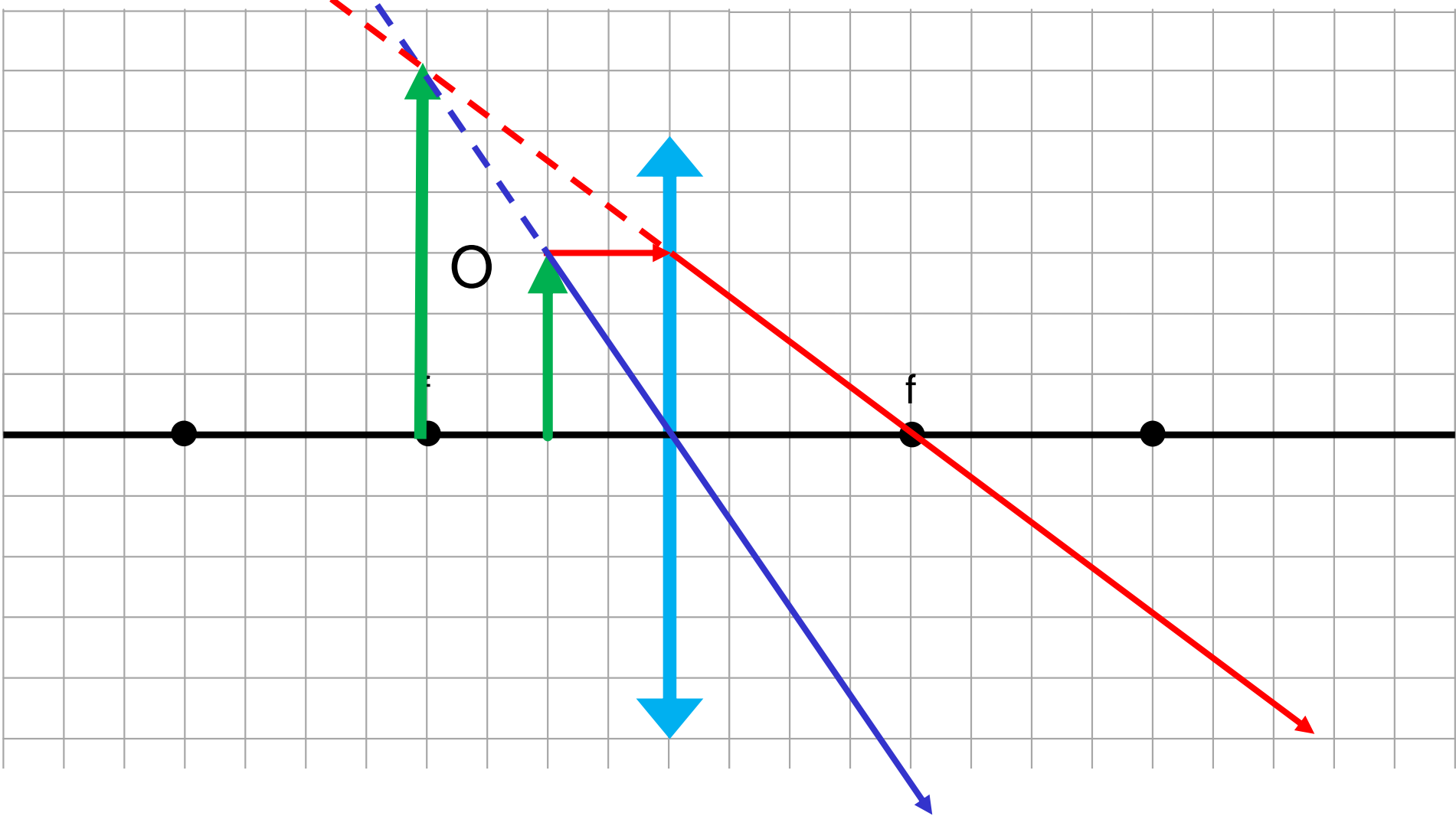
CLASSIFICAÇÃO: Imagem VIRTUAL



CLASSIFICAÇÃO:

Imagem

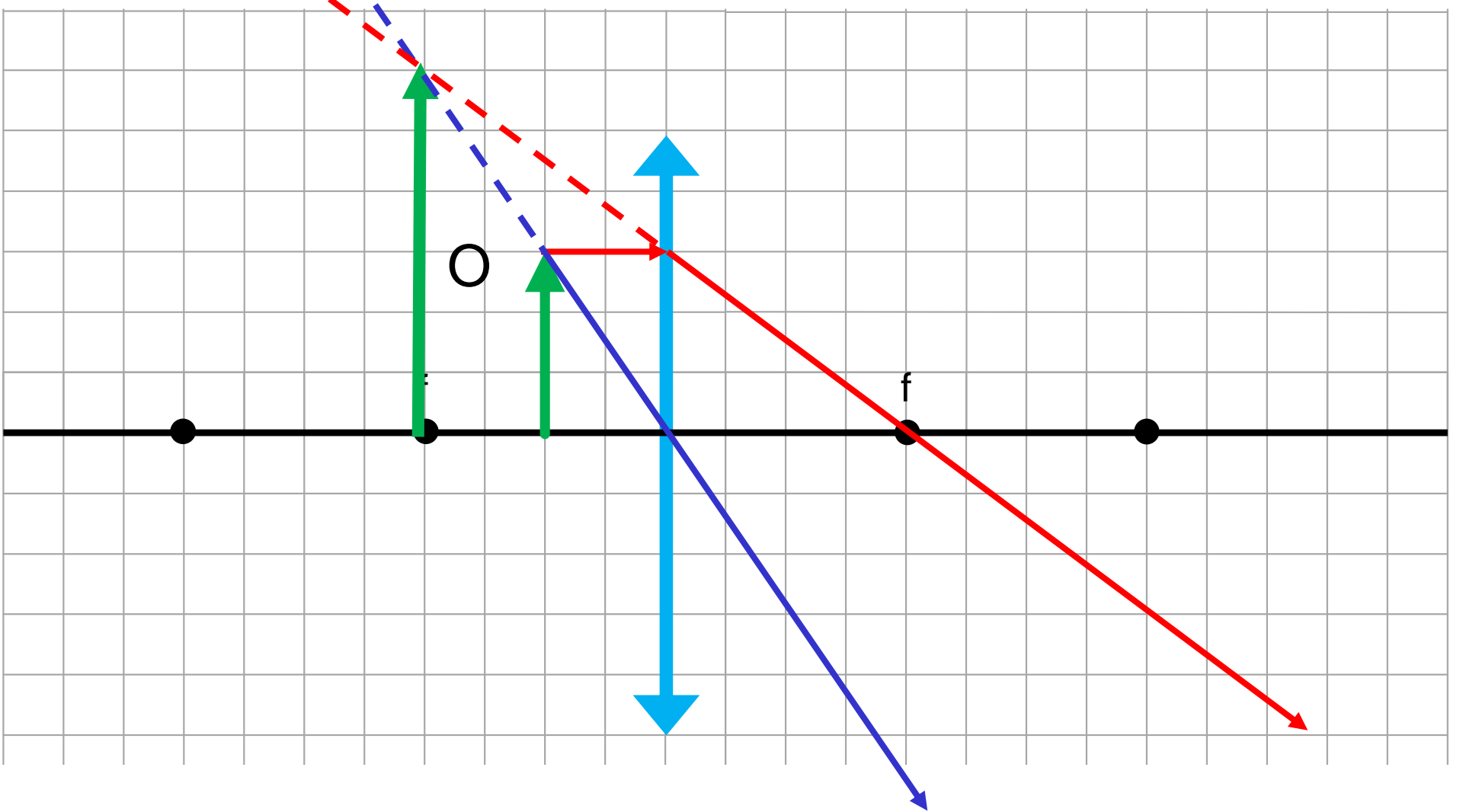
VIRTUAL
DIREITA

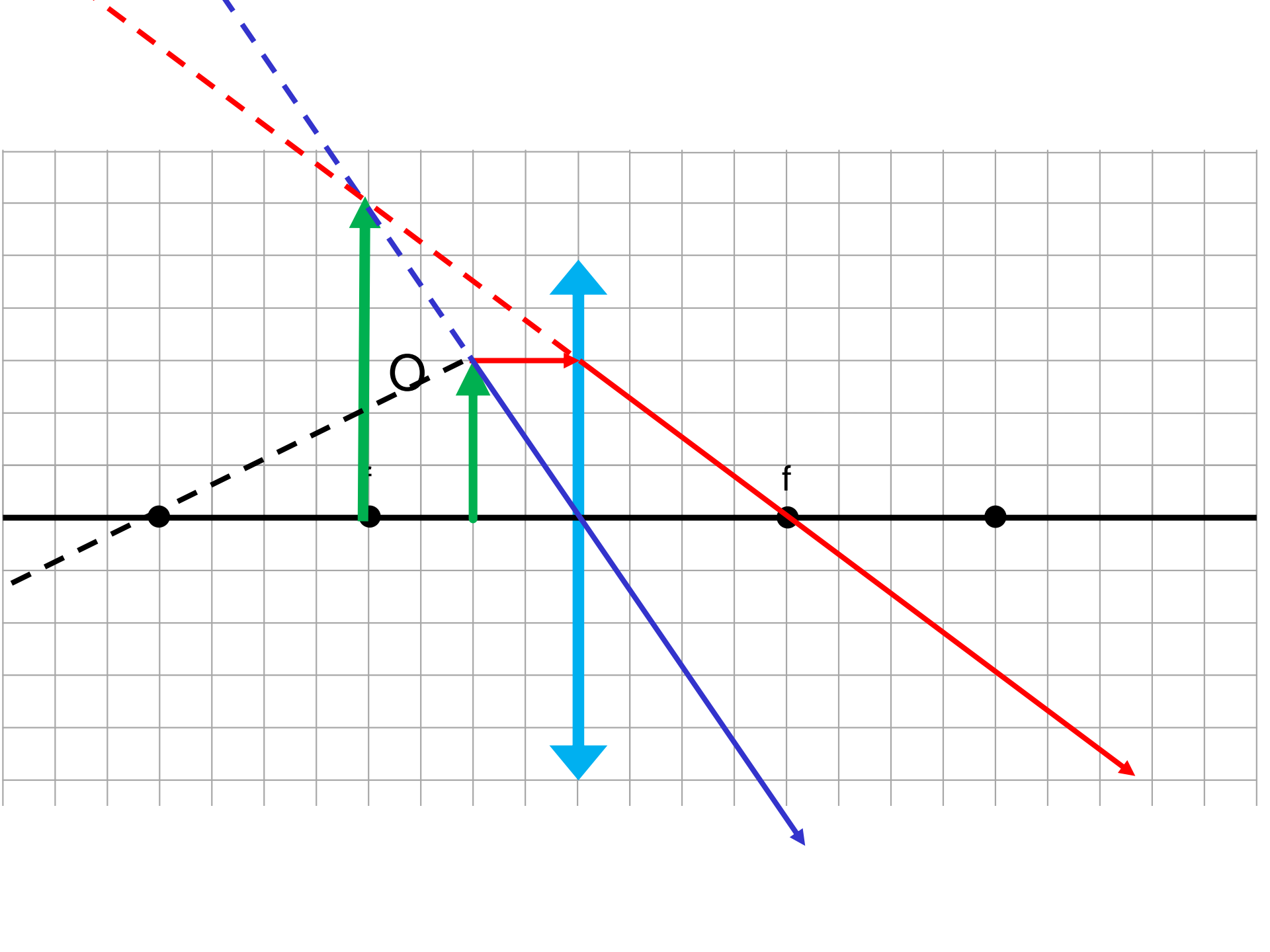


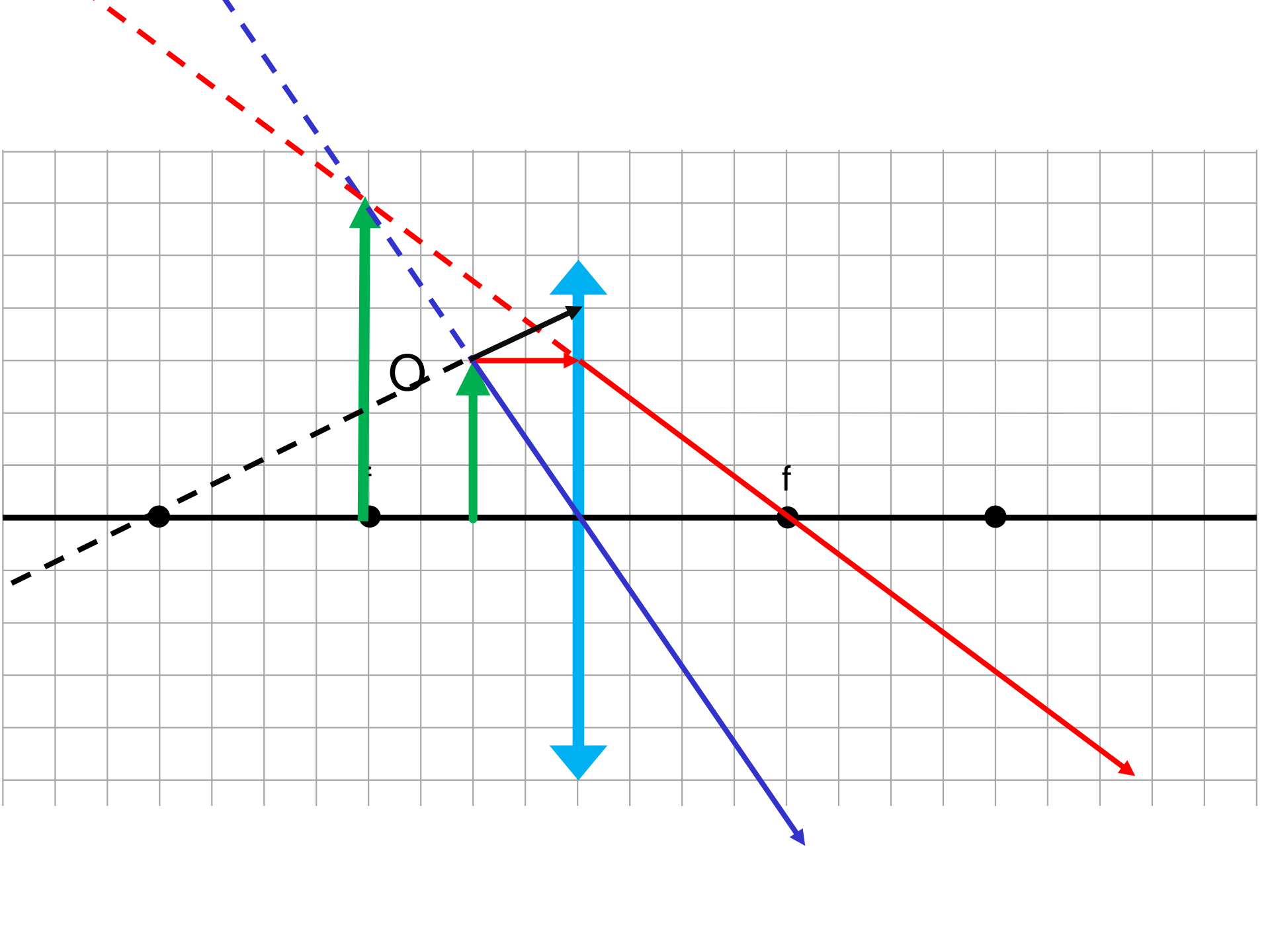
CLASSIFICAÇÃO:

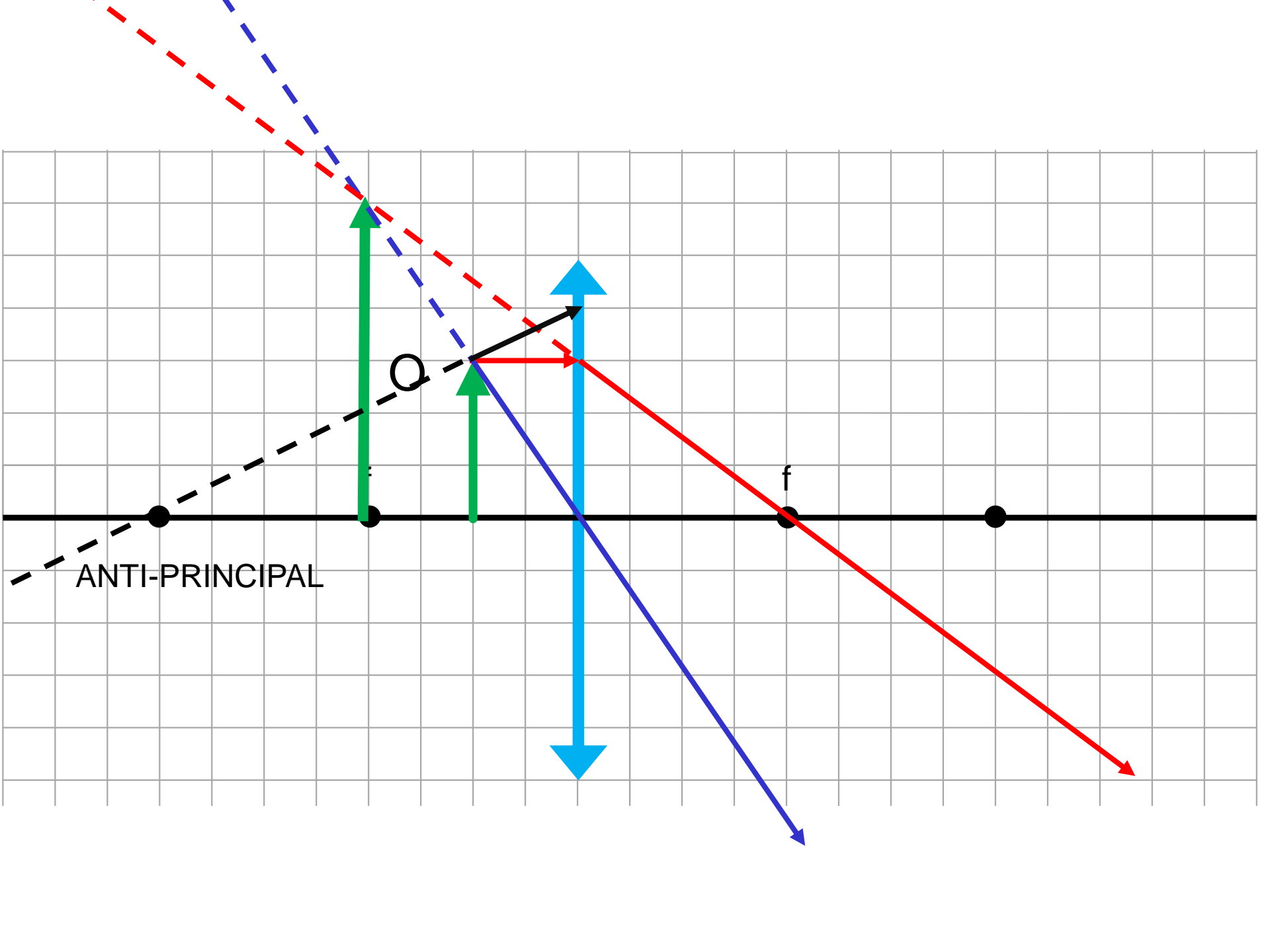
Imagem

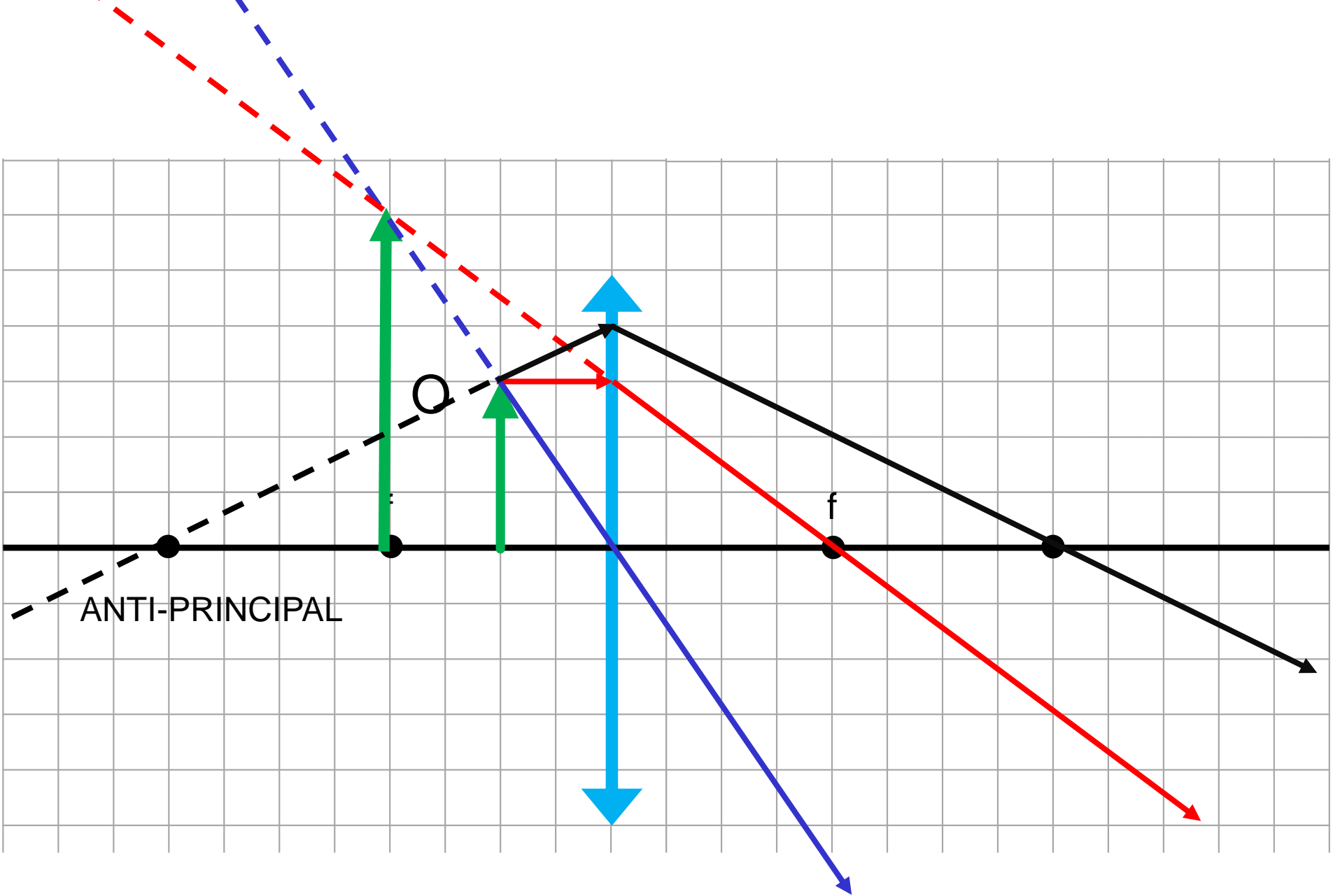
VIRTUAL
DIREITA
MAIOR

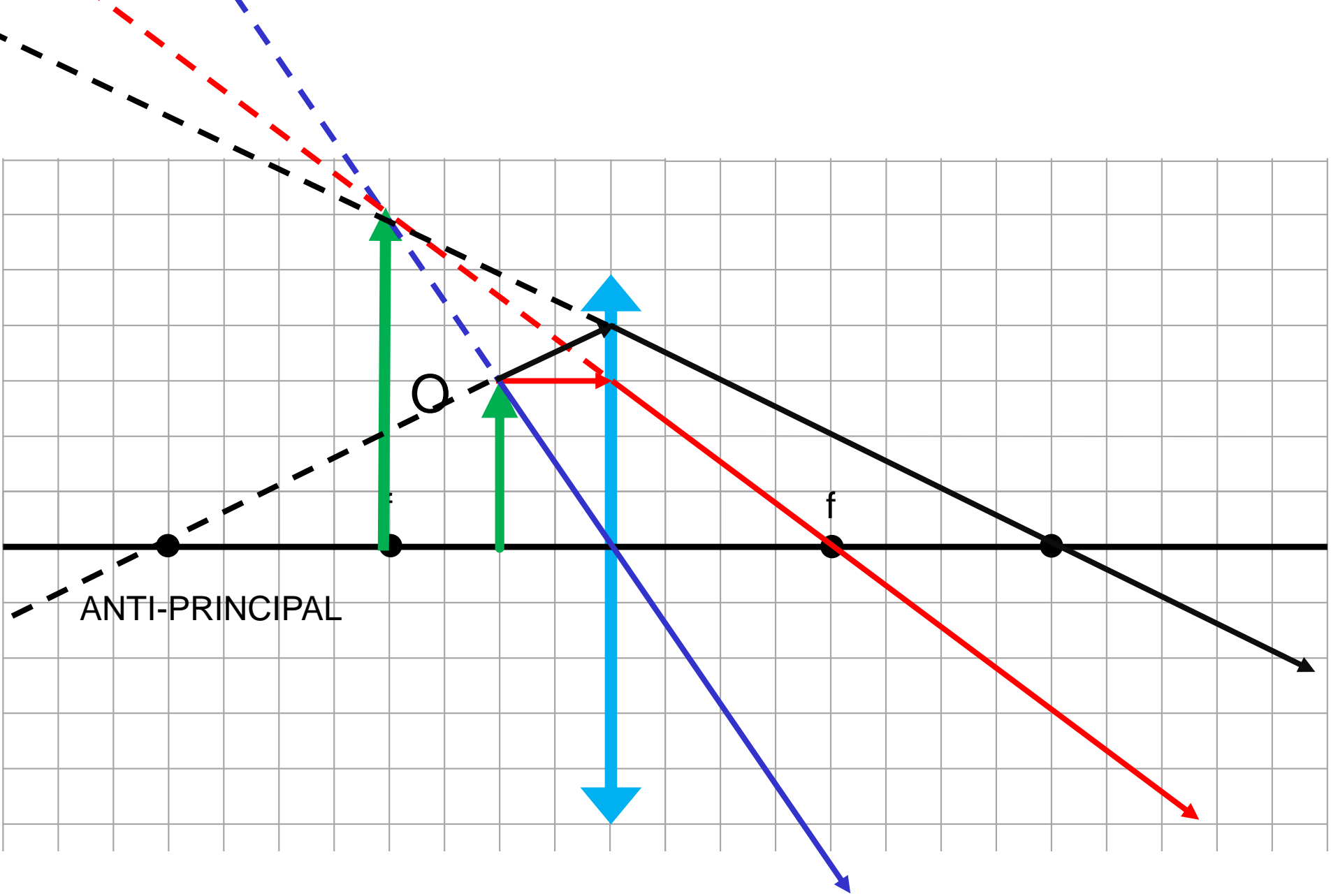


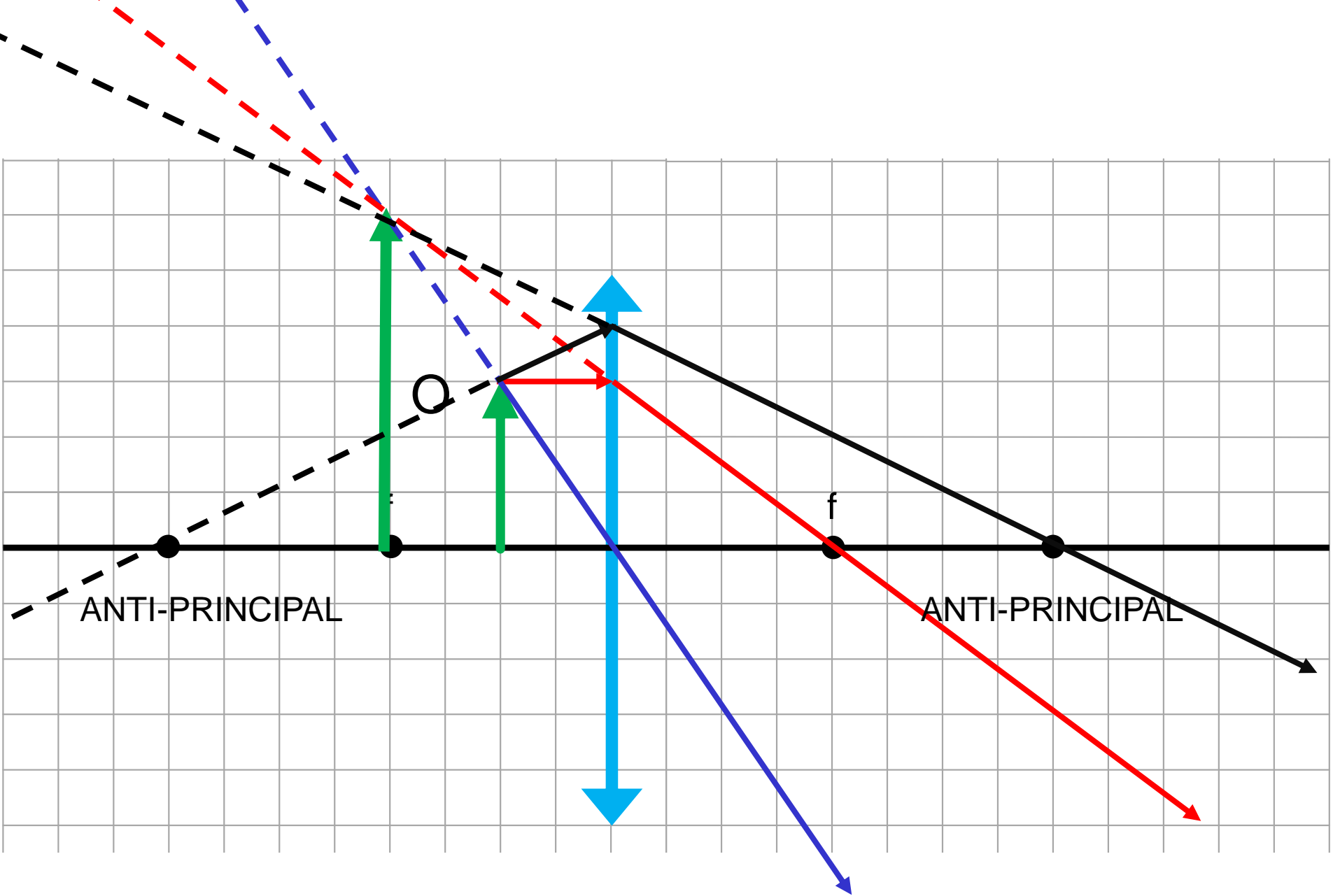


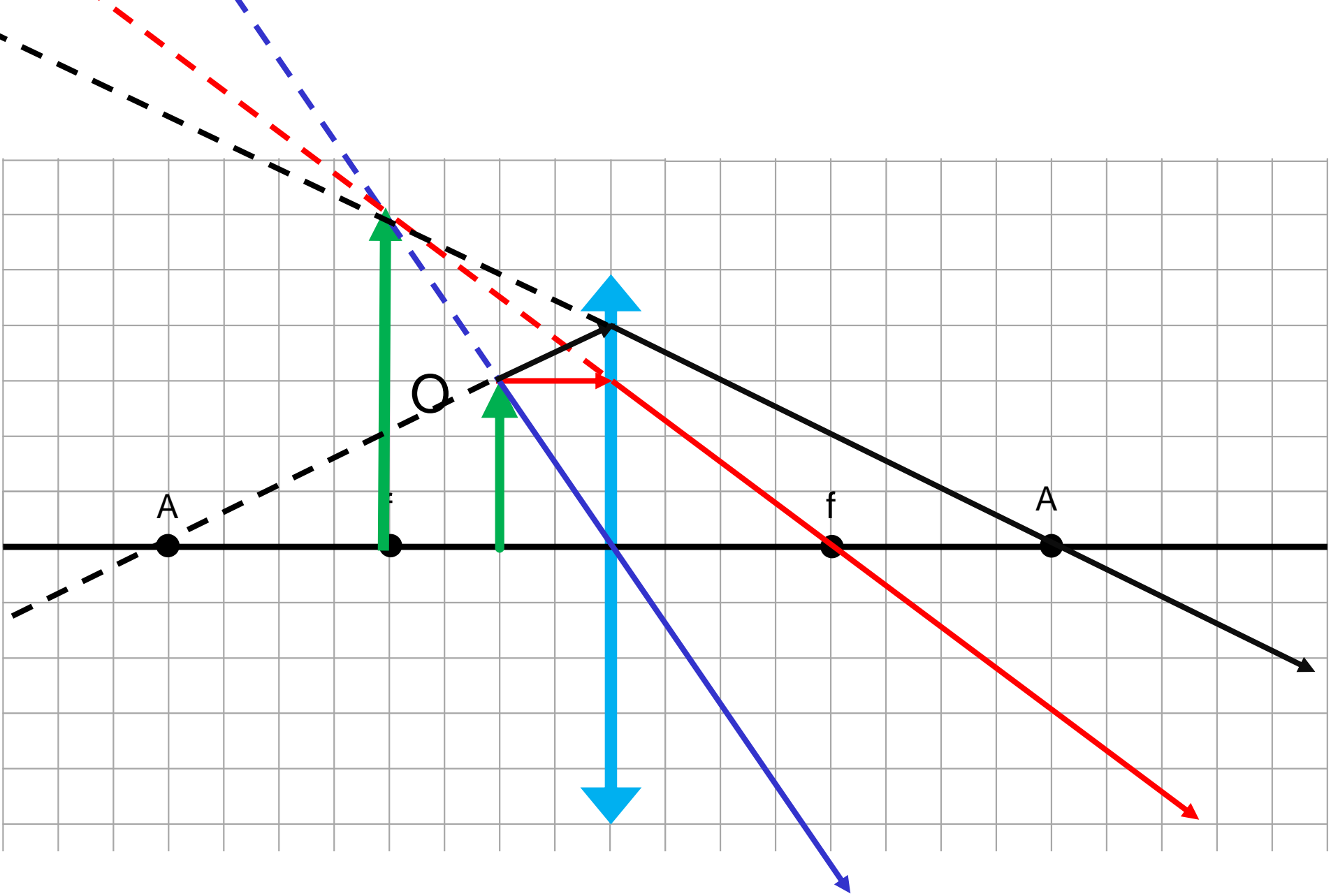






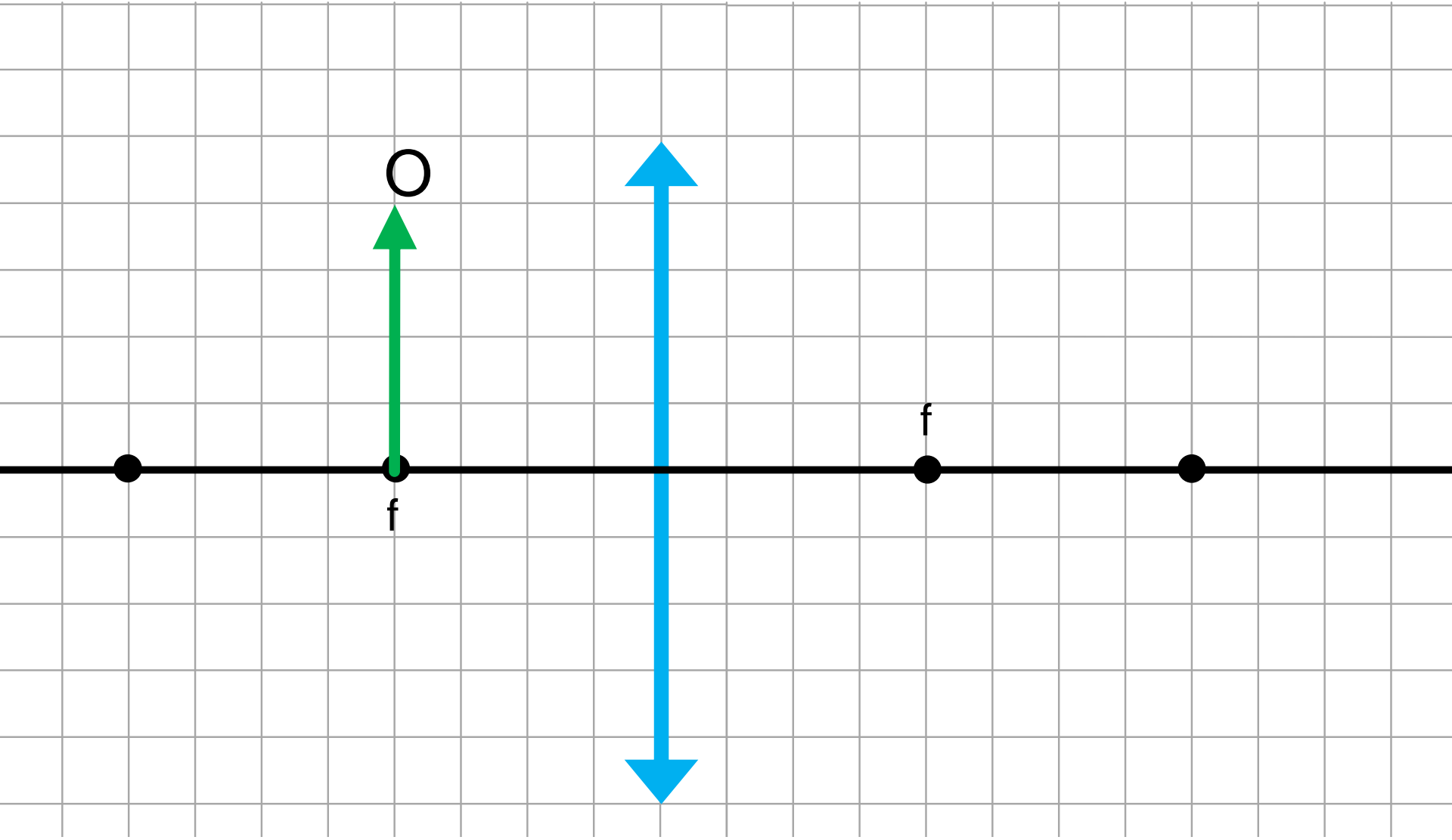


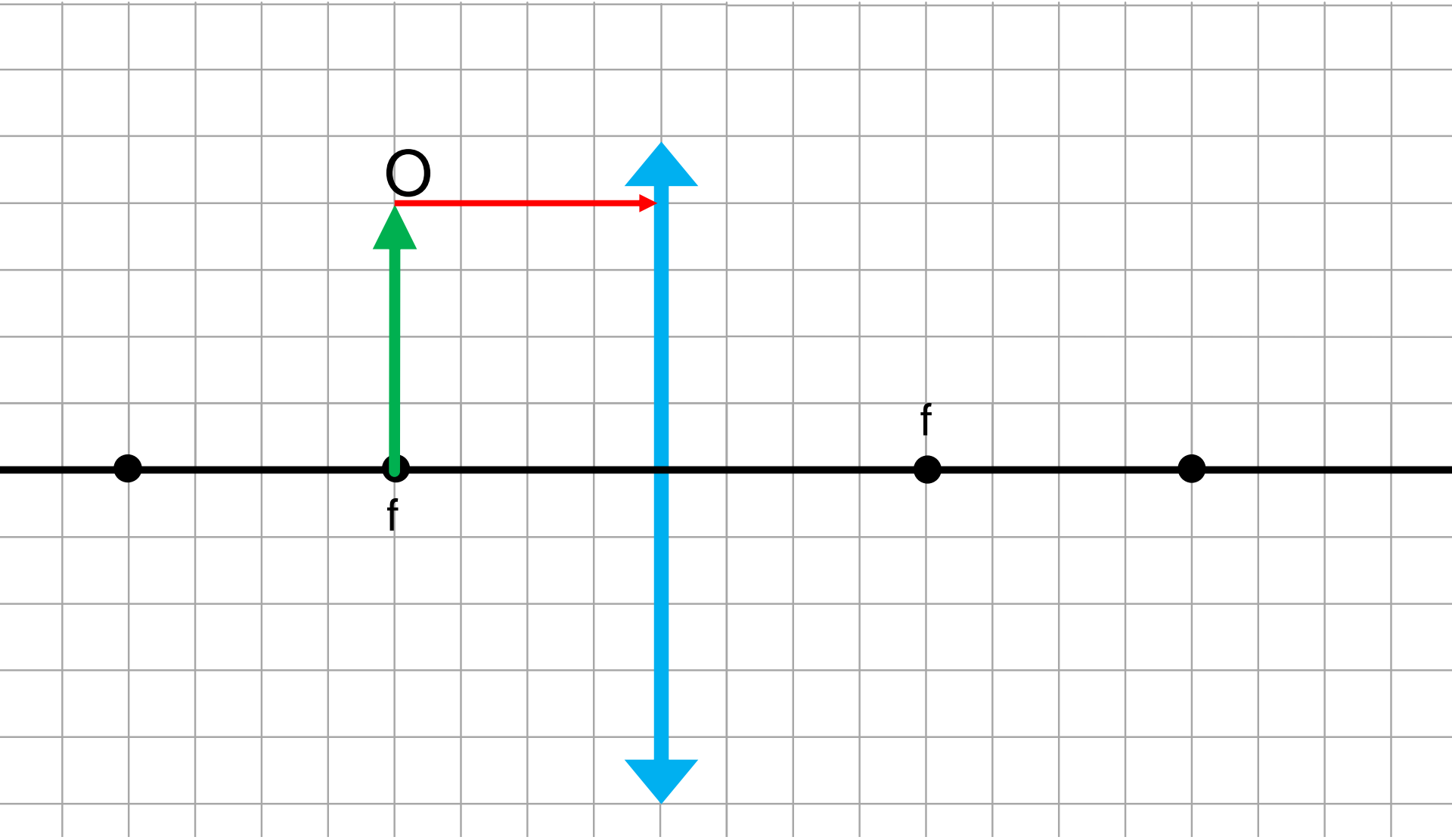


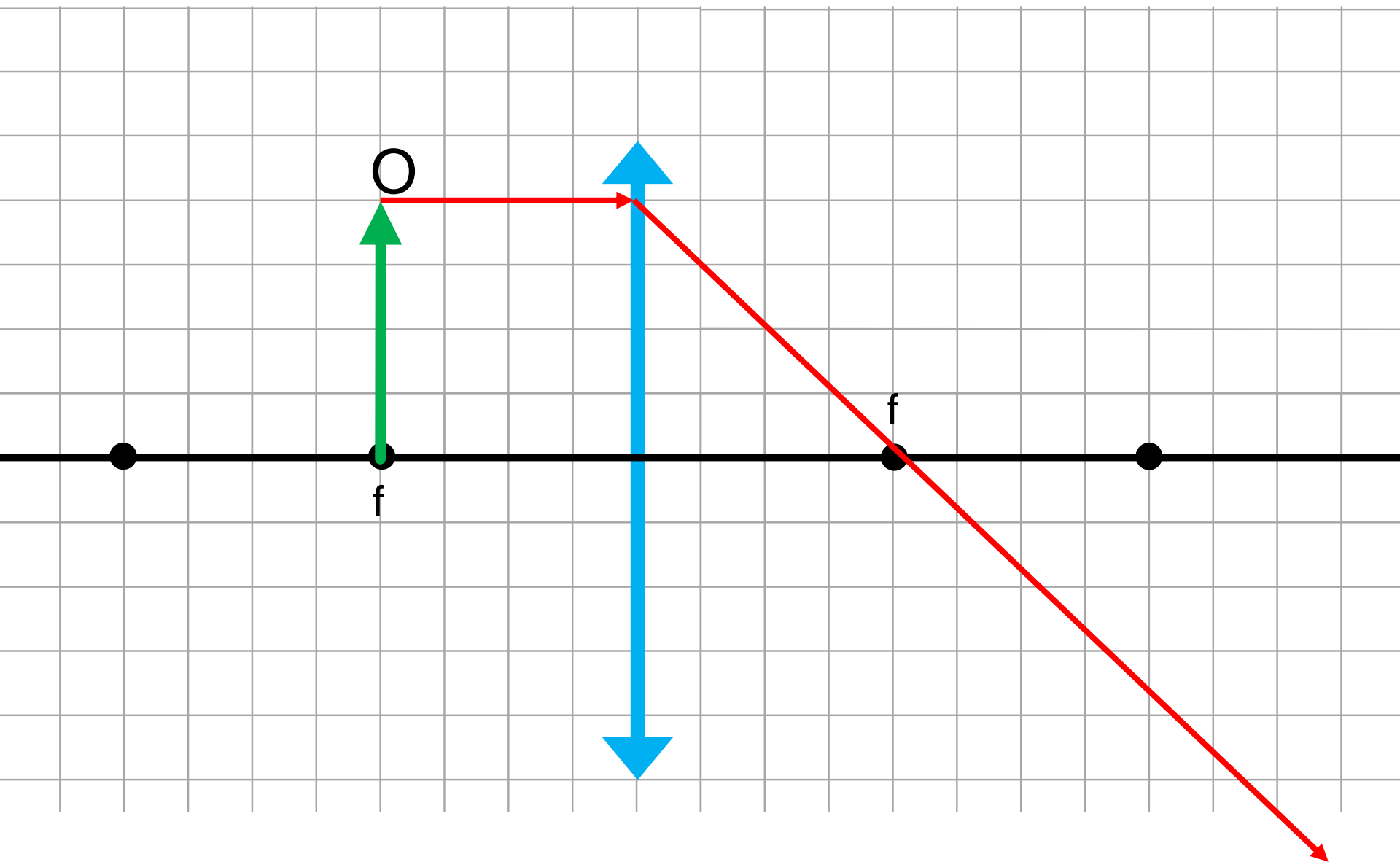




Segundo caso







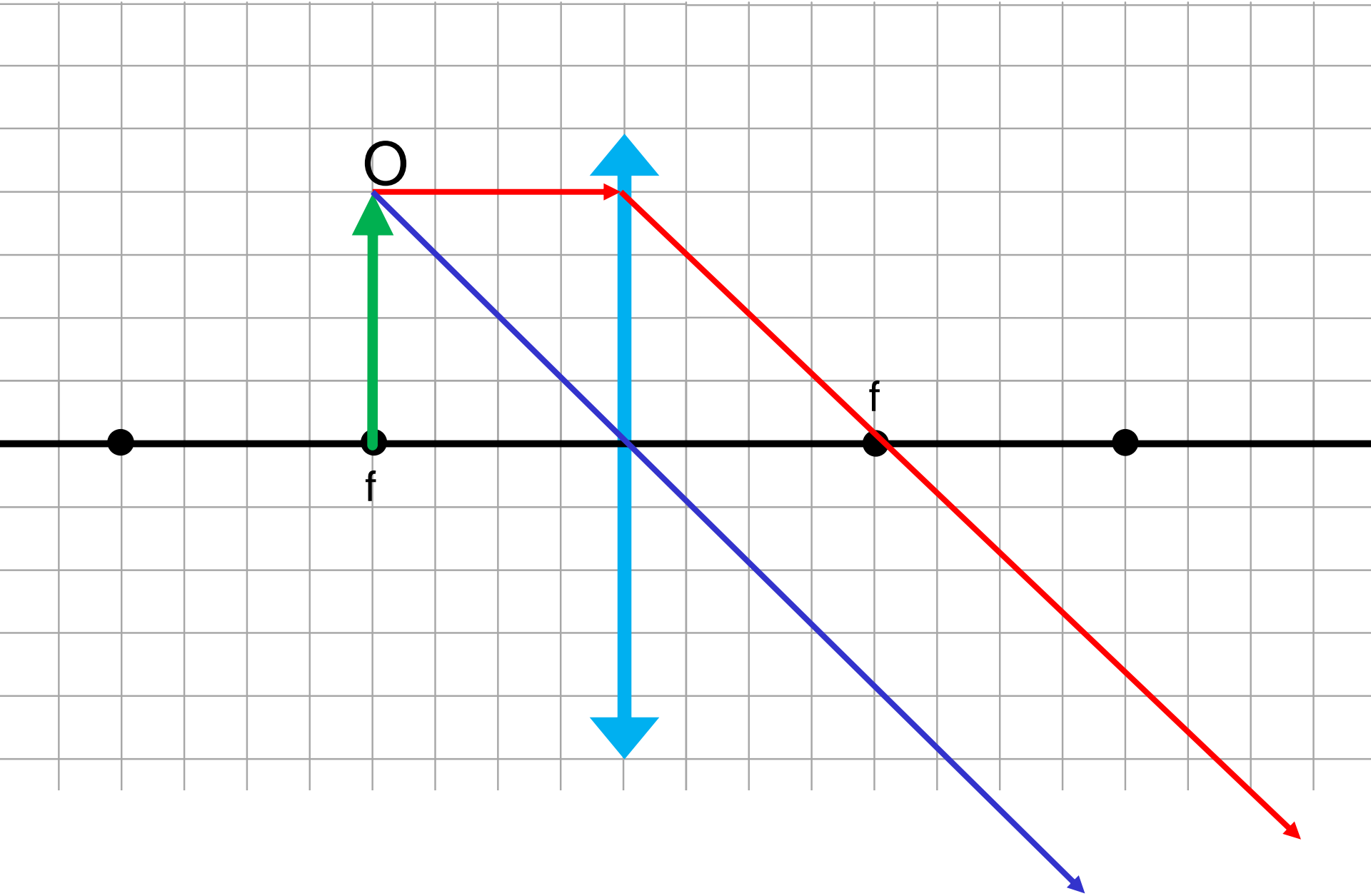
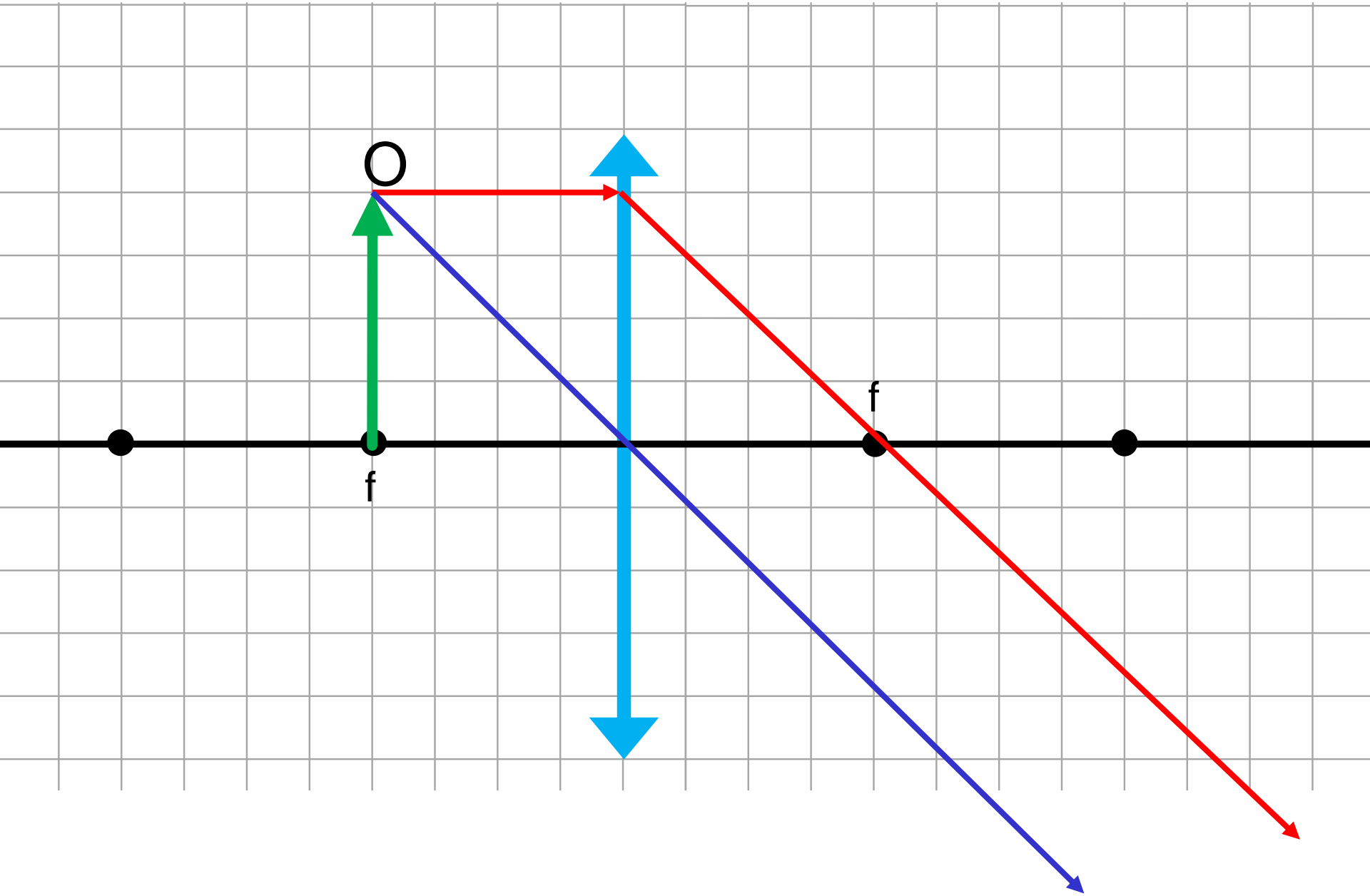
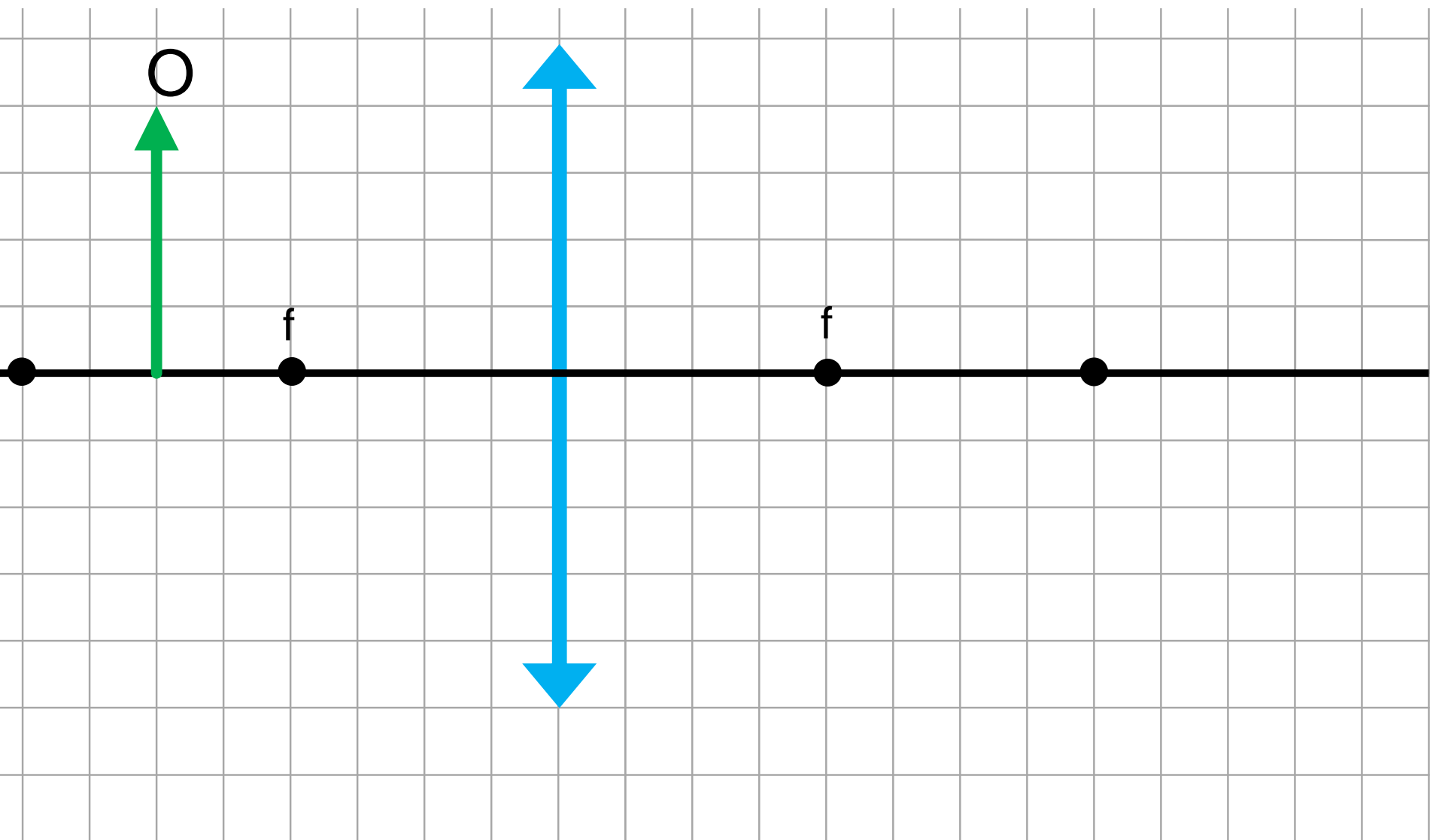


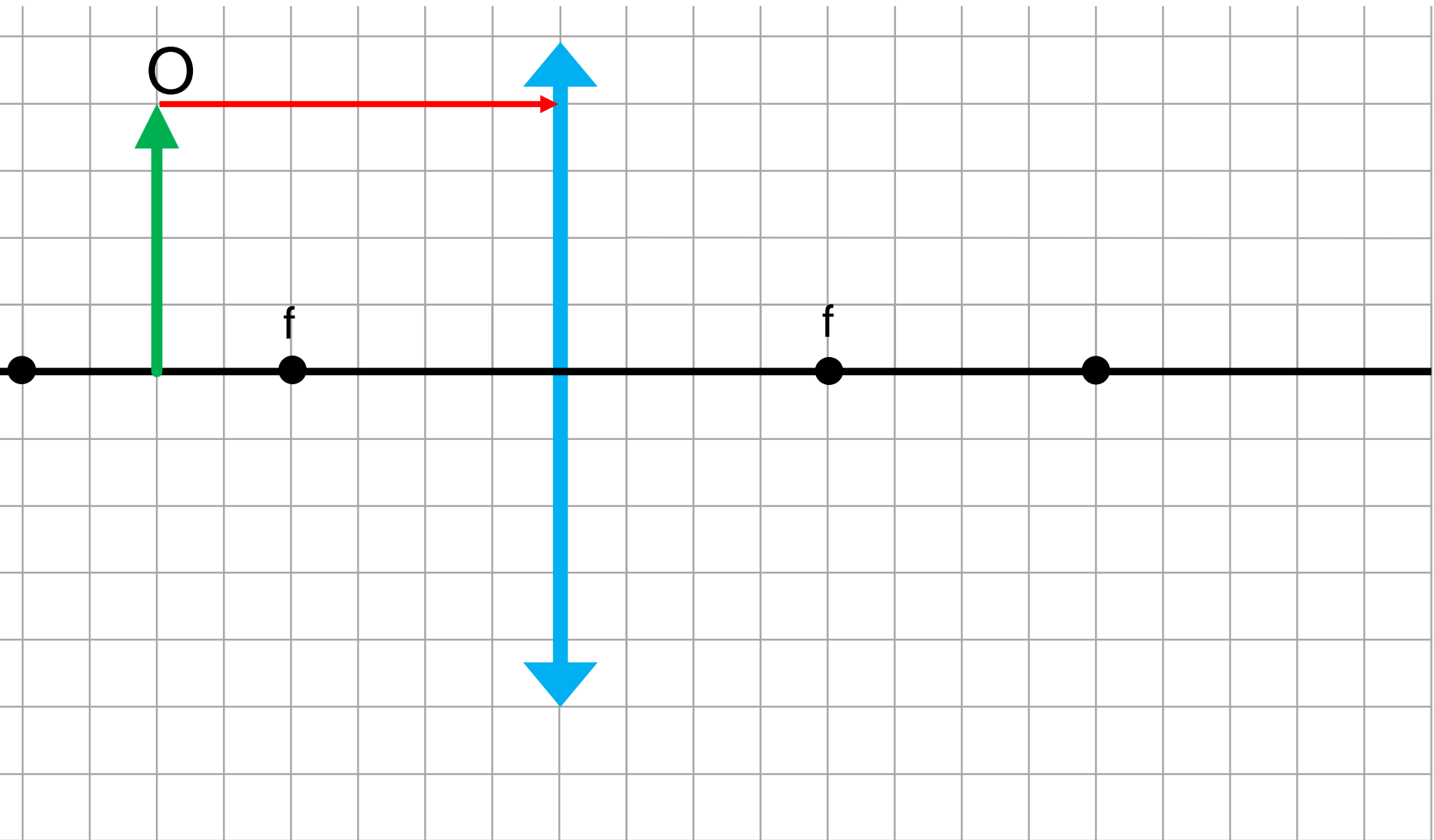
IMAGEM IMPRÓPRIA

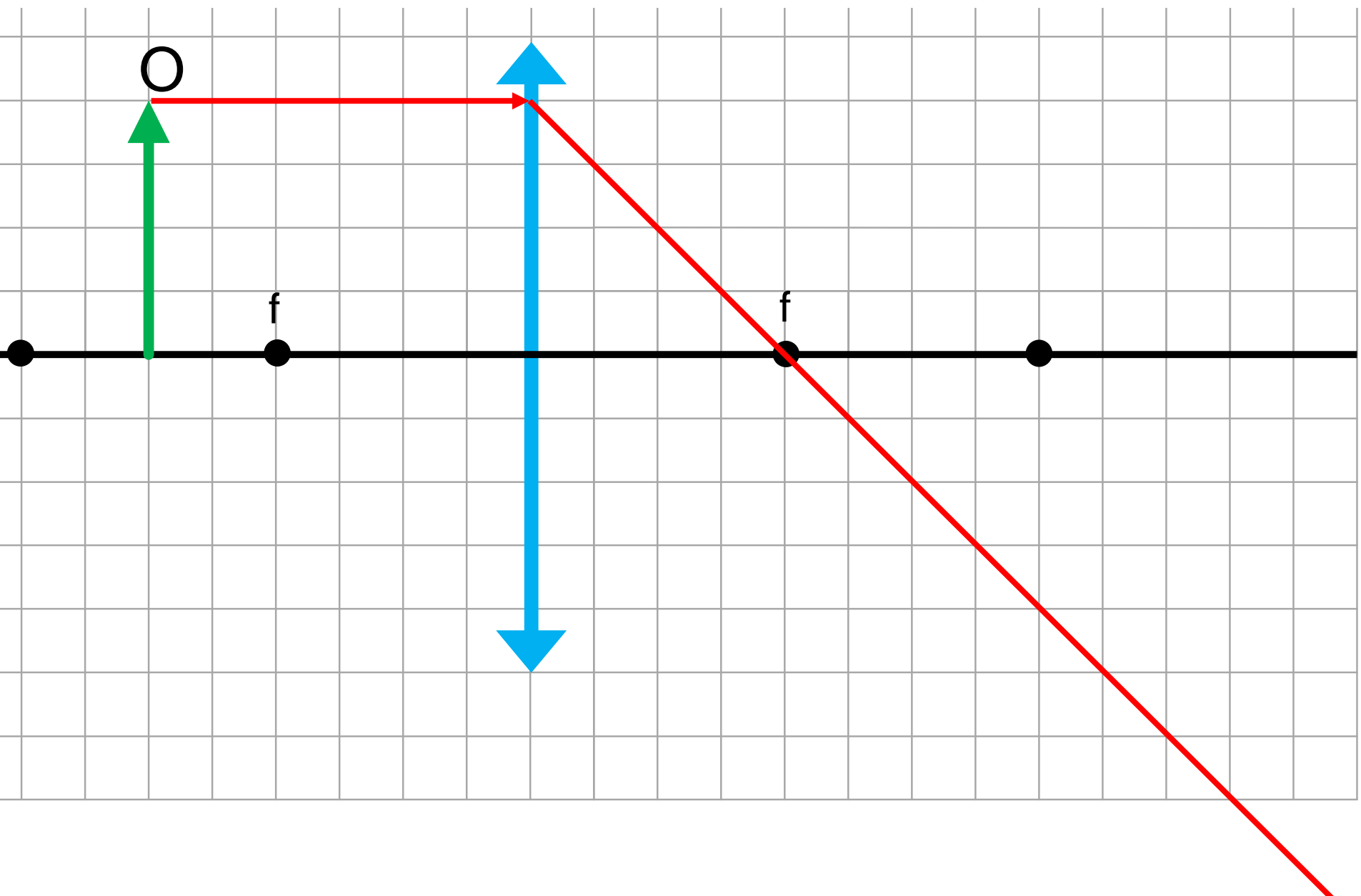


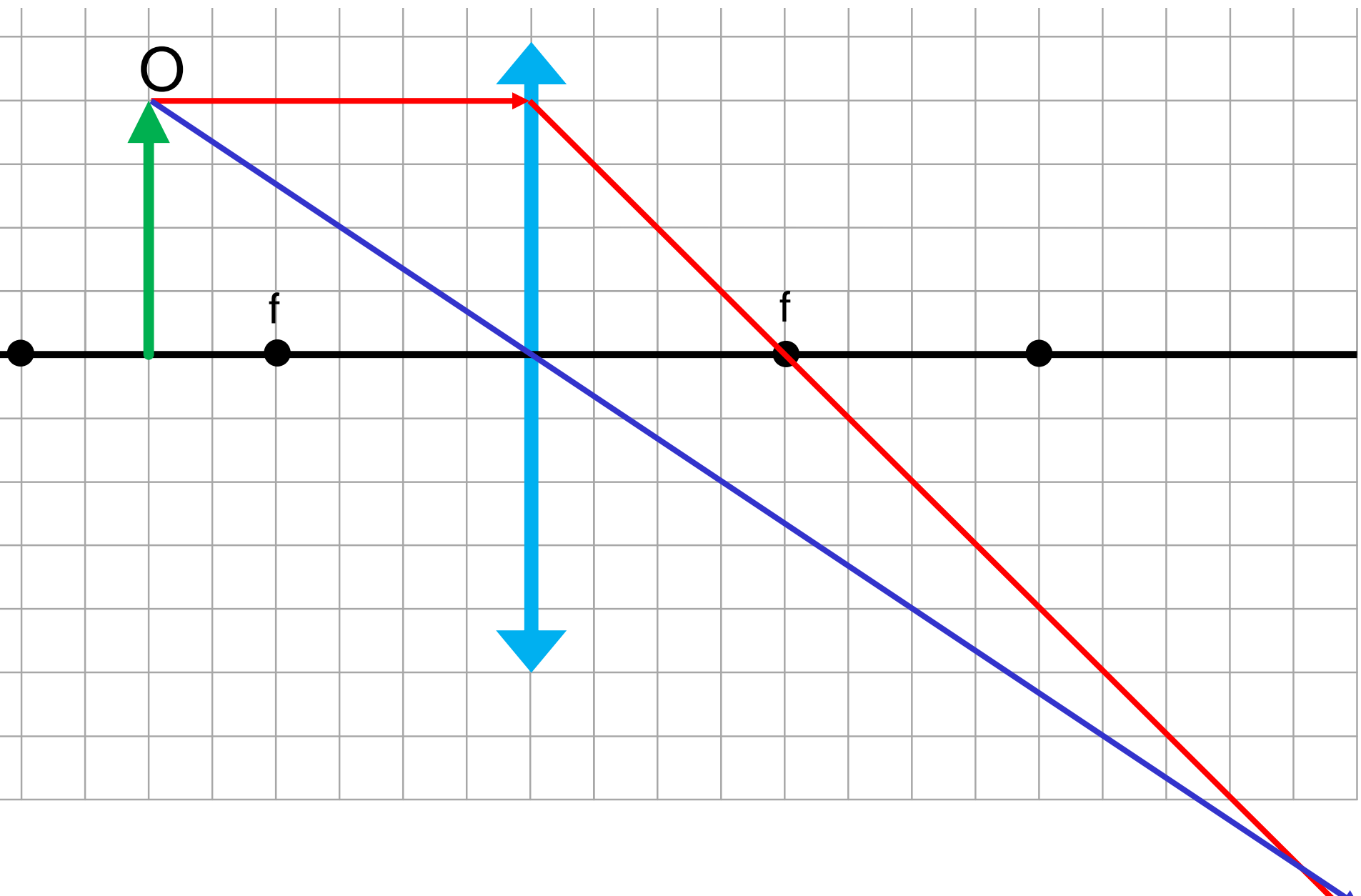


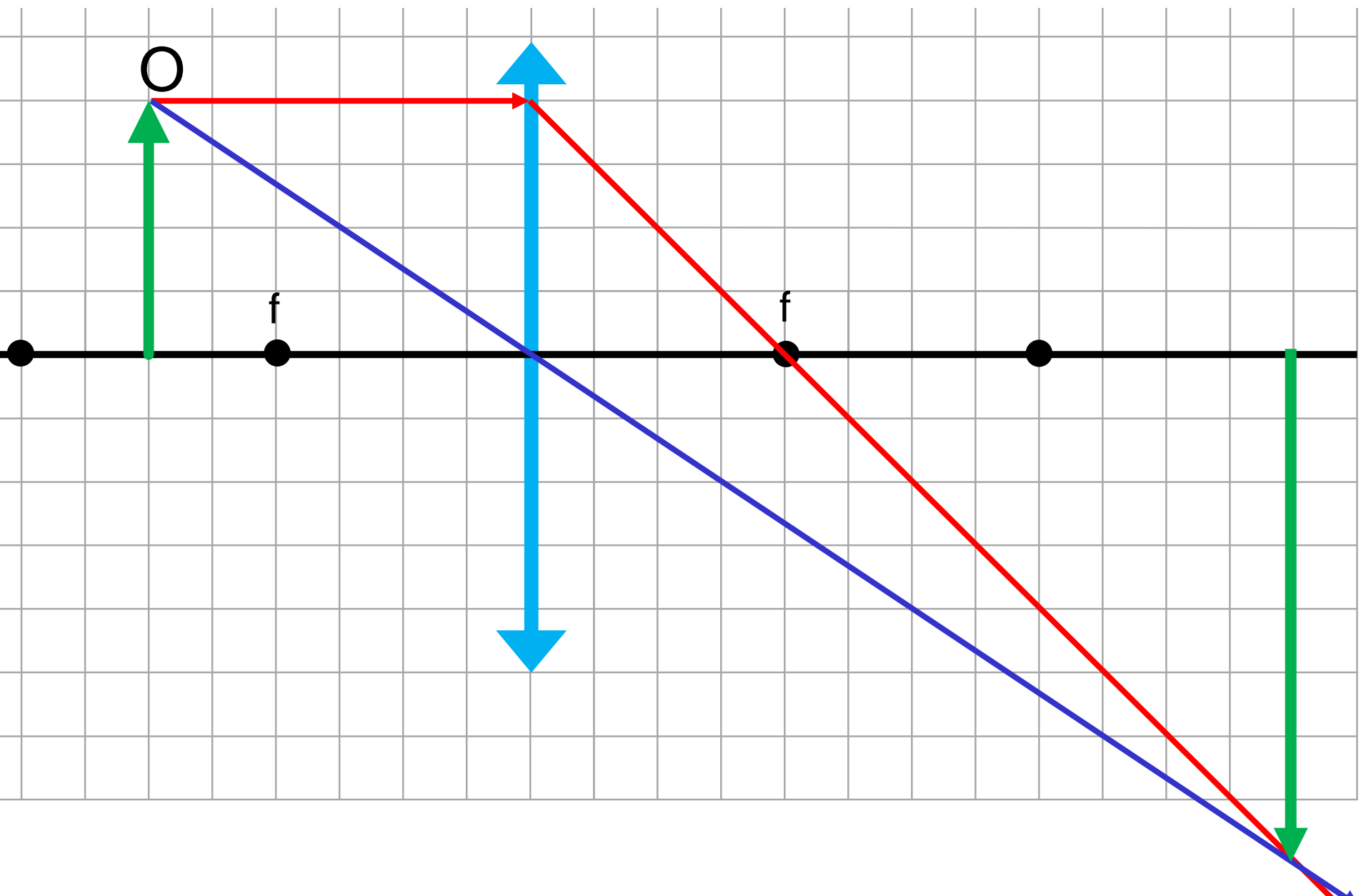
Terceiro caso







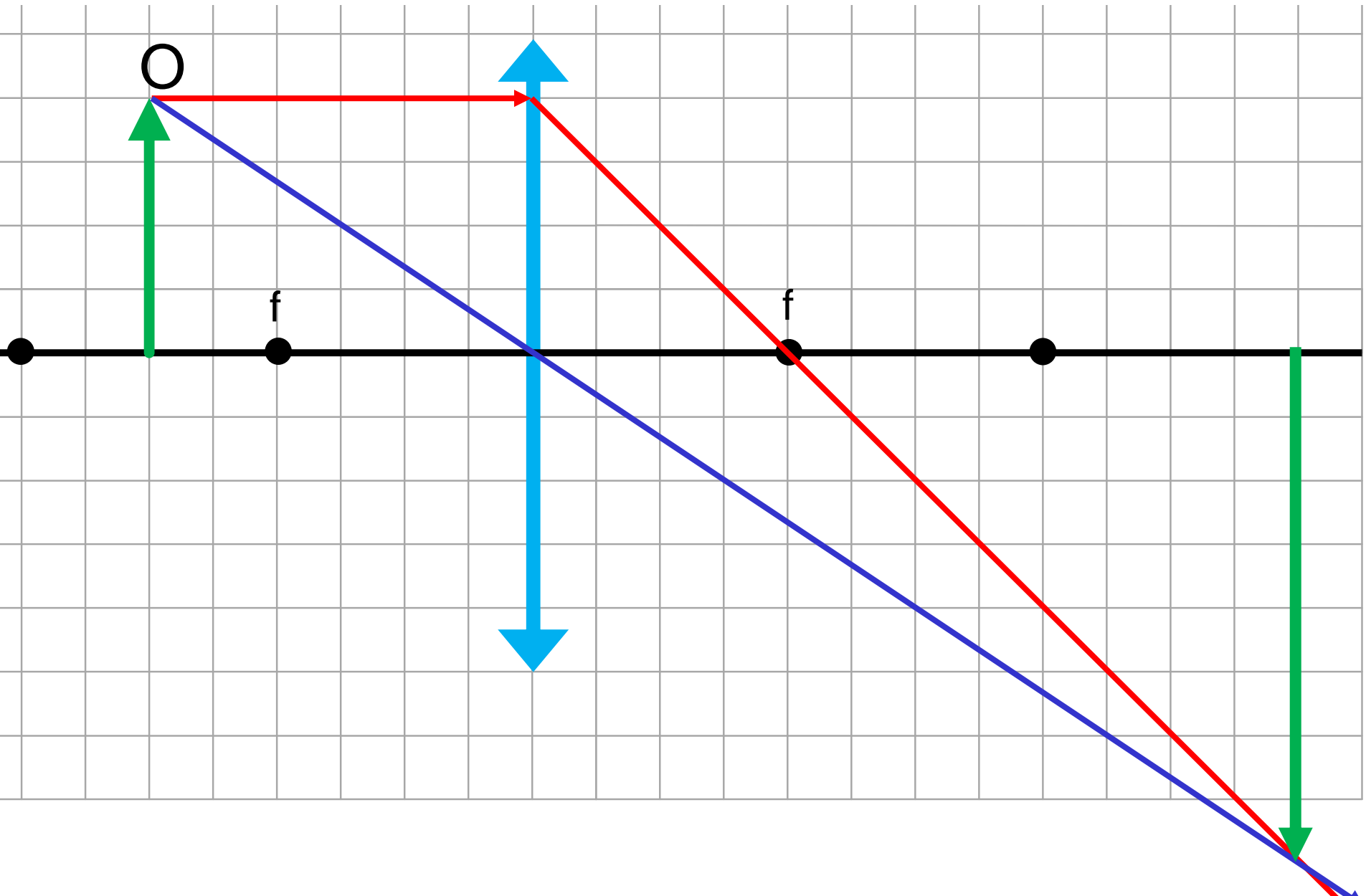




CLASSIFICAÇÃO:

Imagem

REAL

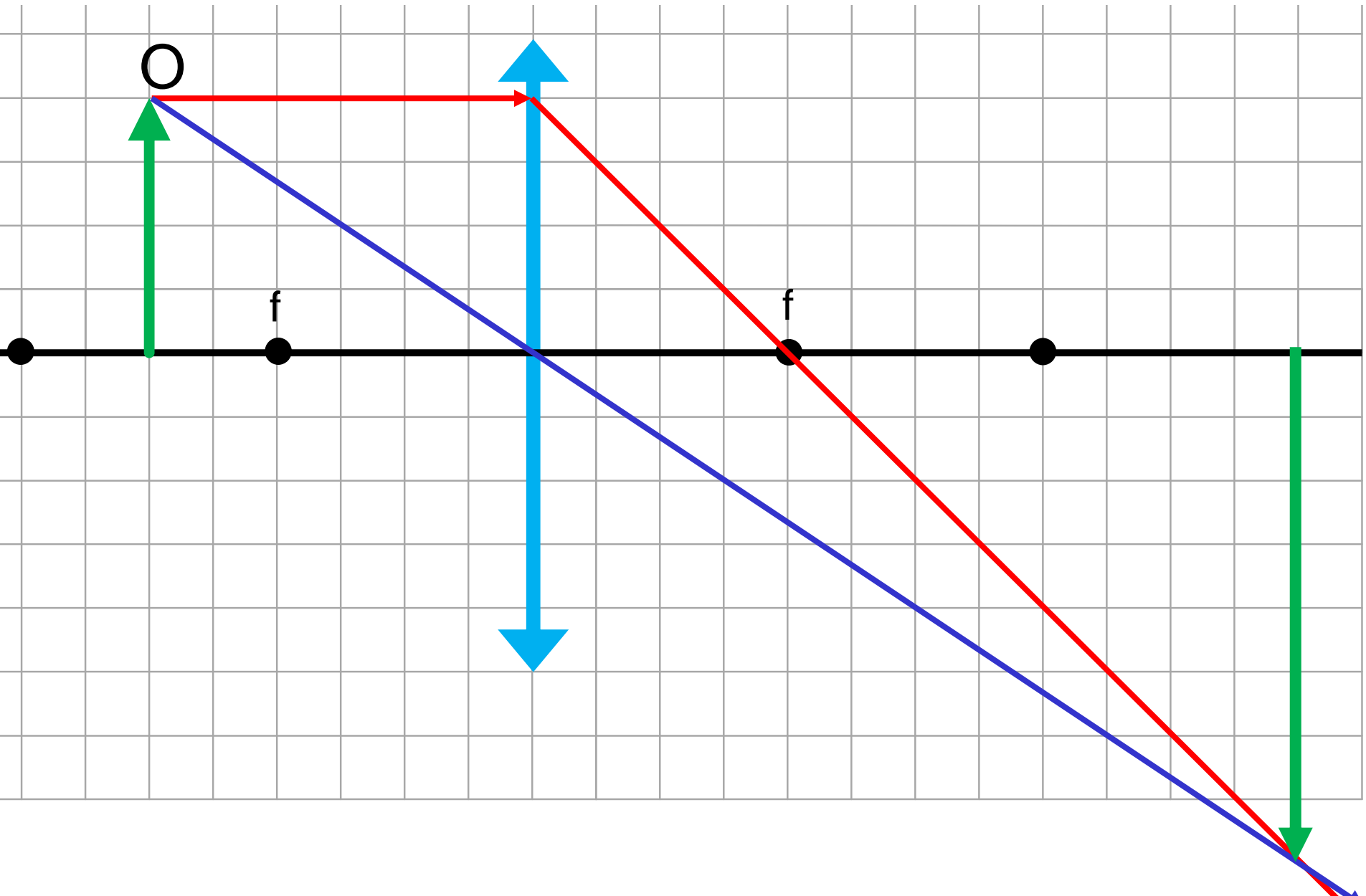


CLASSIFICAÇÃO:

Imagem

REAL

INVERTIDA



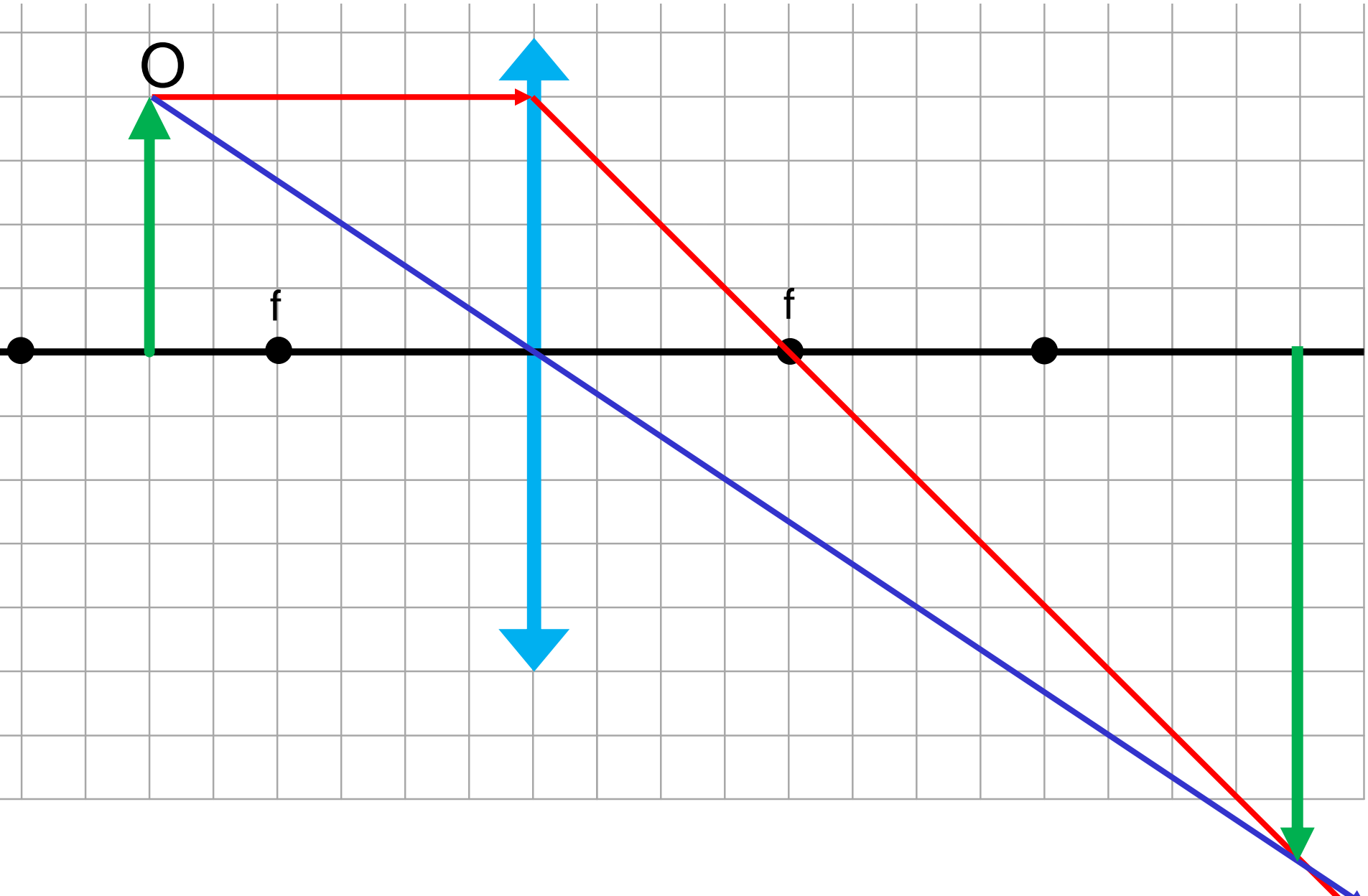
CLASSIFICAÇÃO:

Imagem

REAL

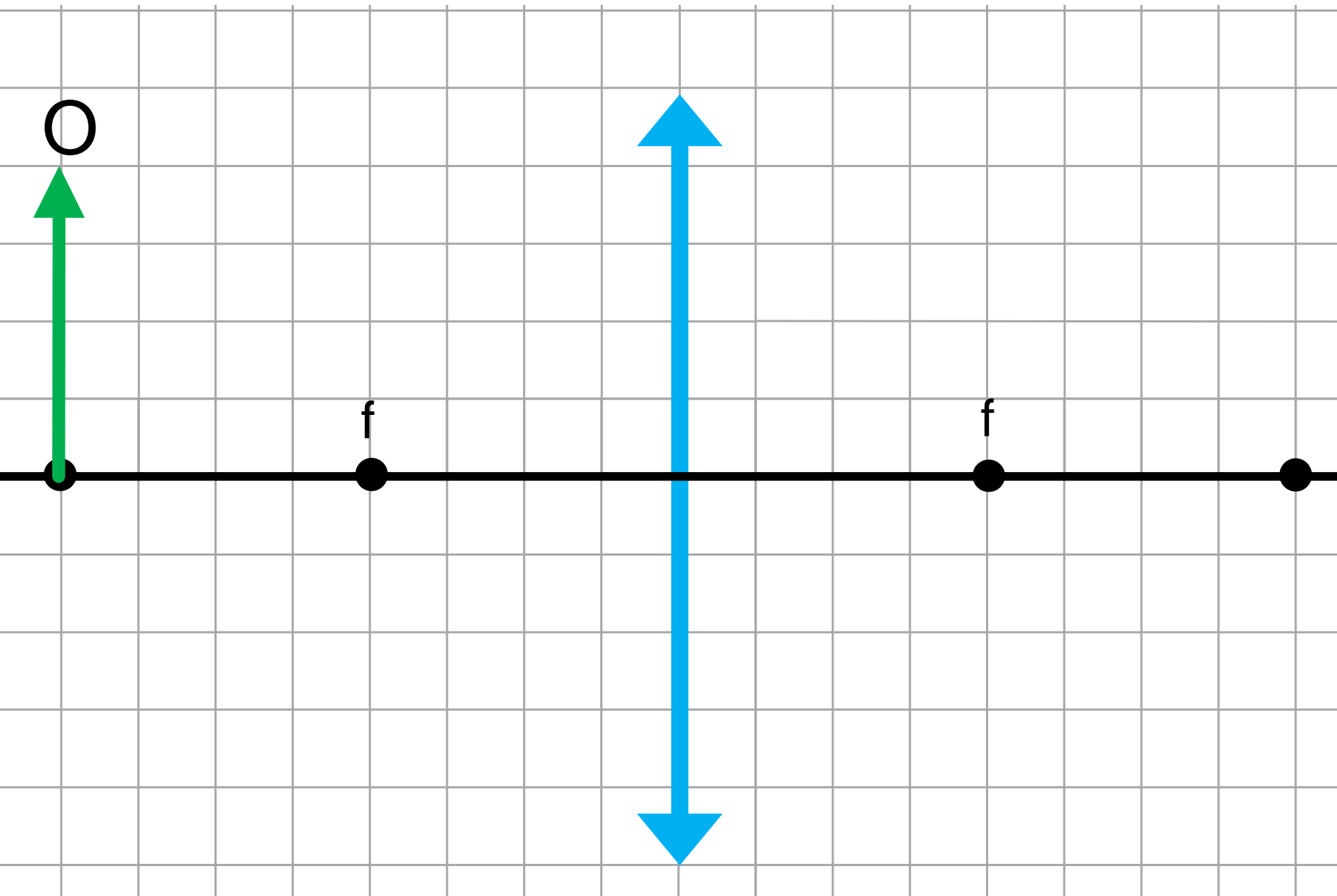
INVERTIDA

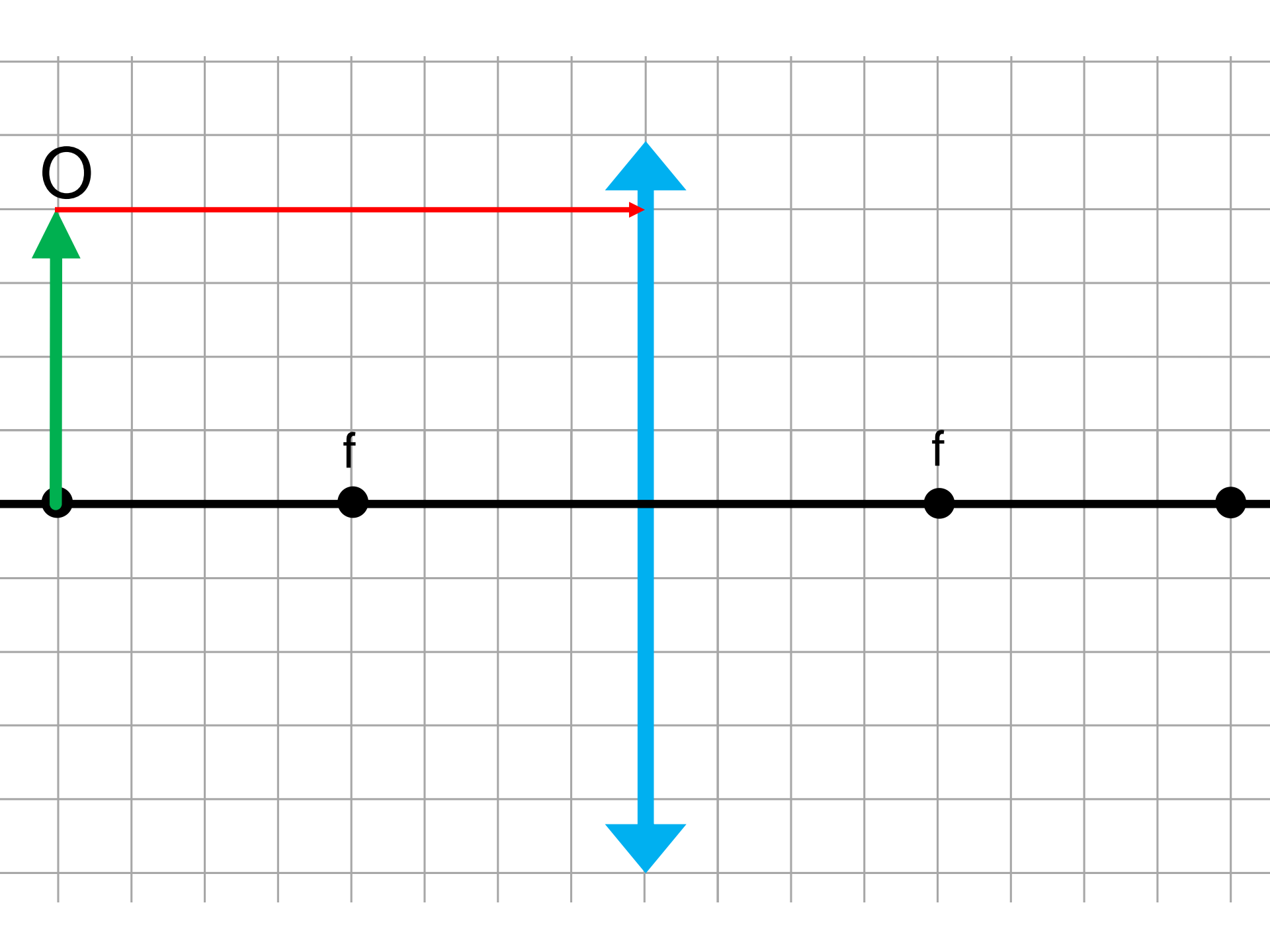
MAIOR

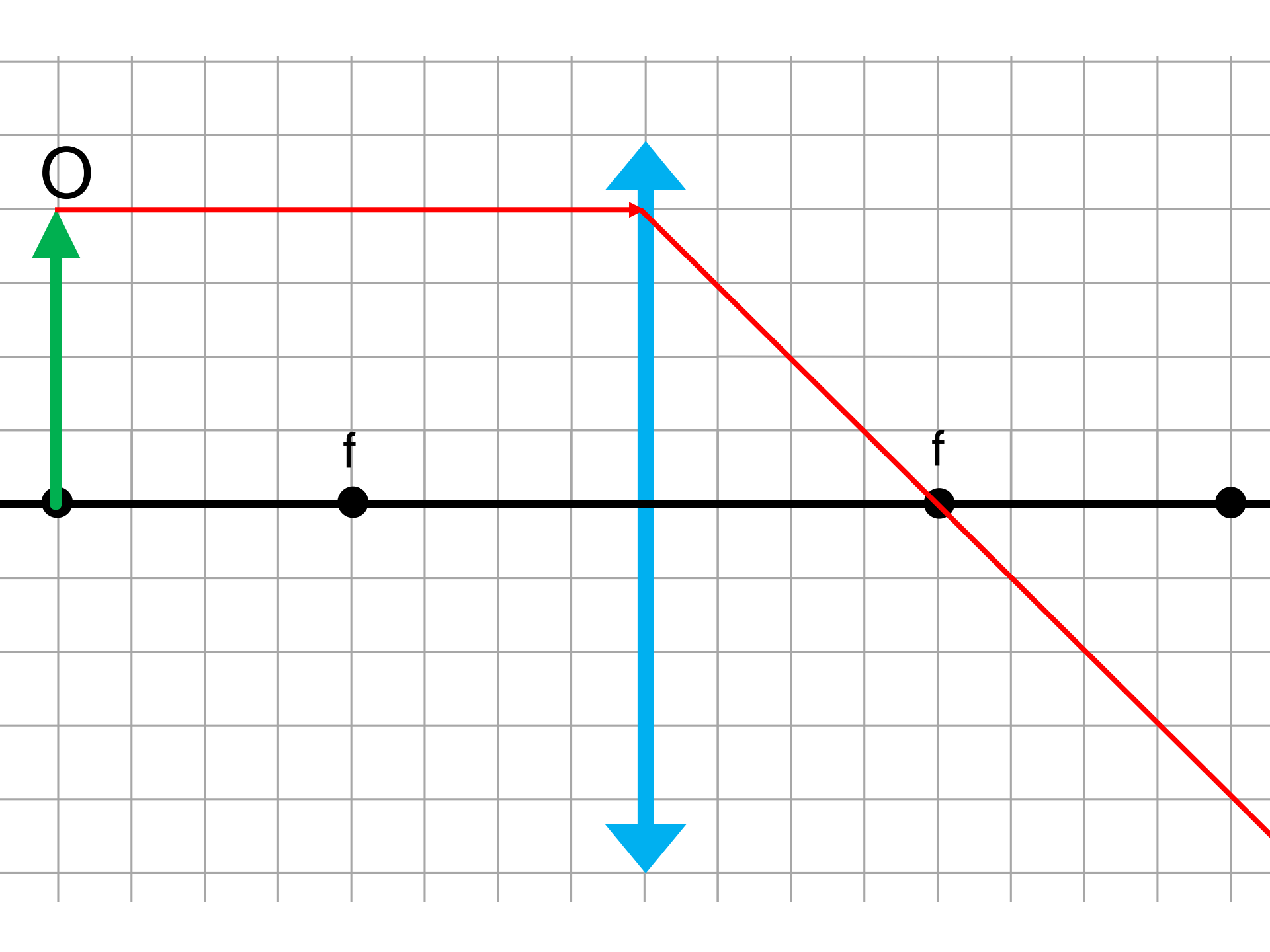


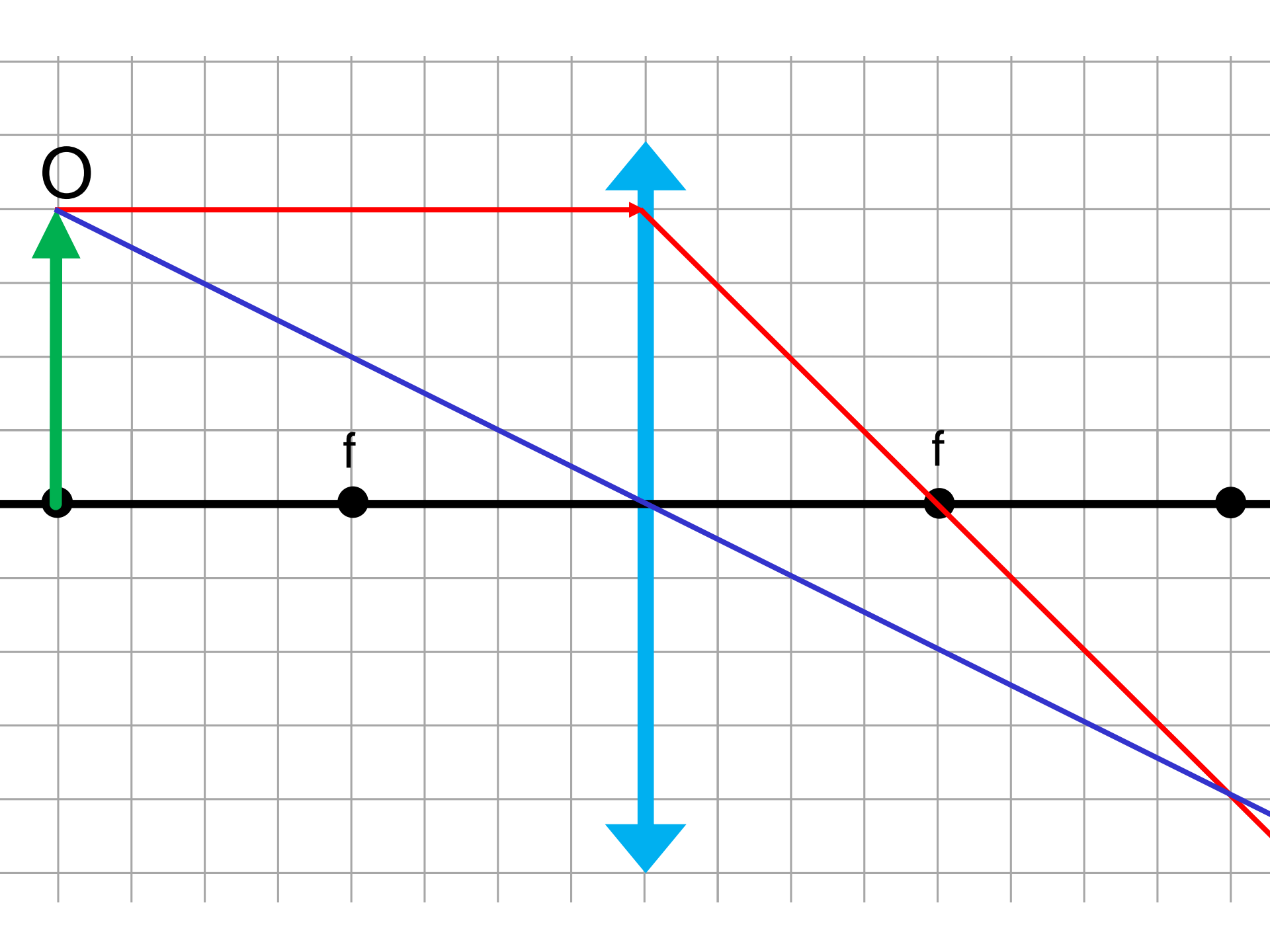


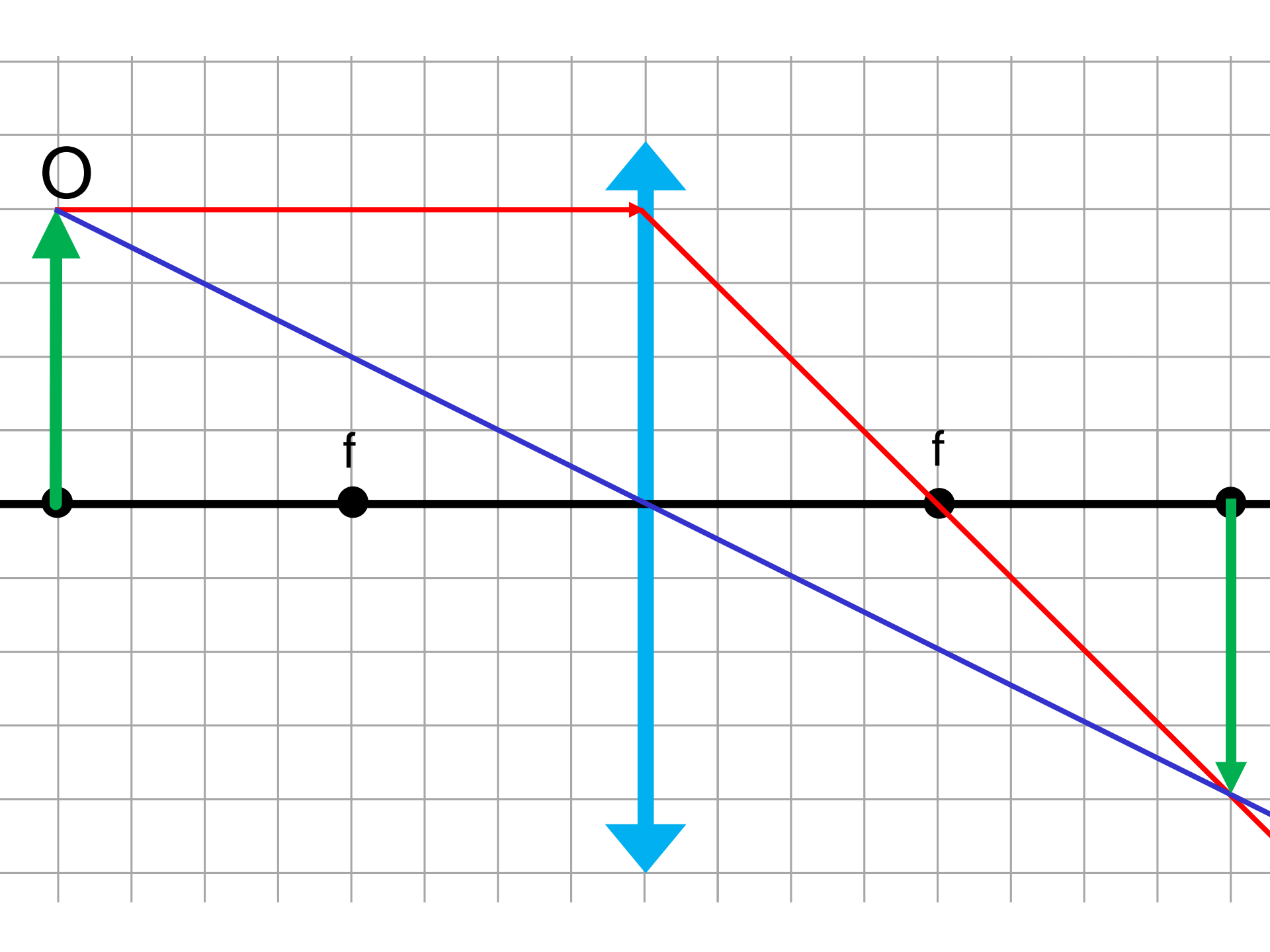
Quarto caso



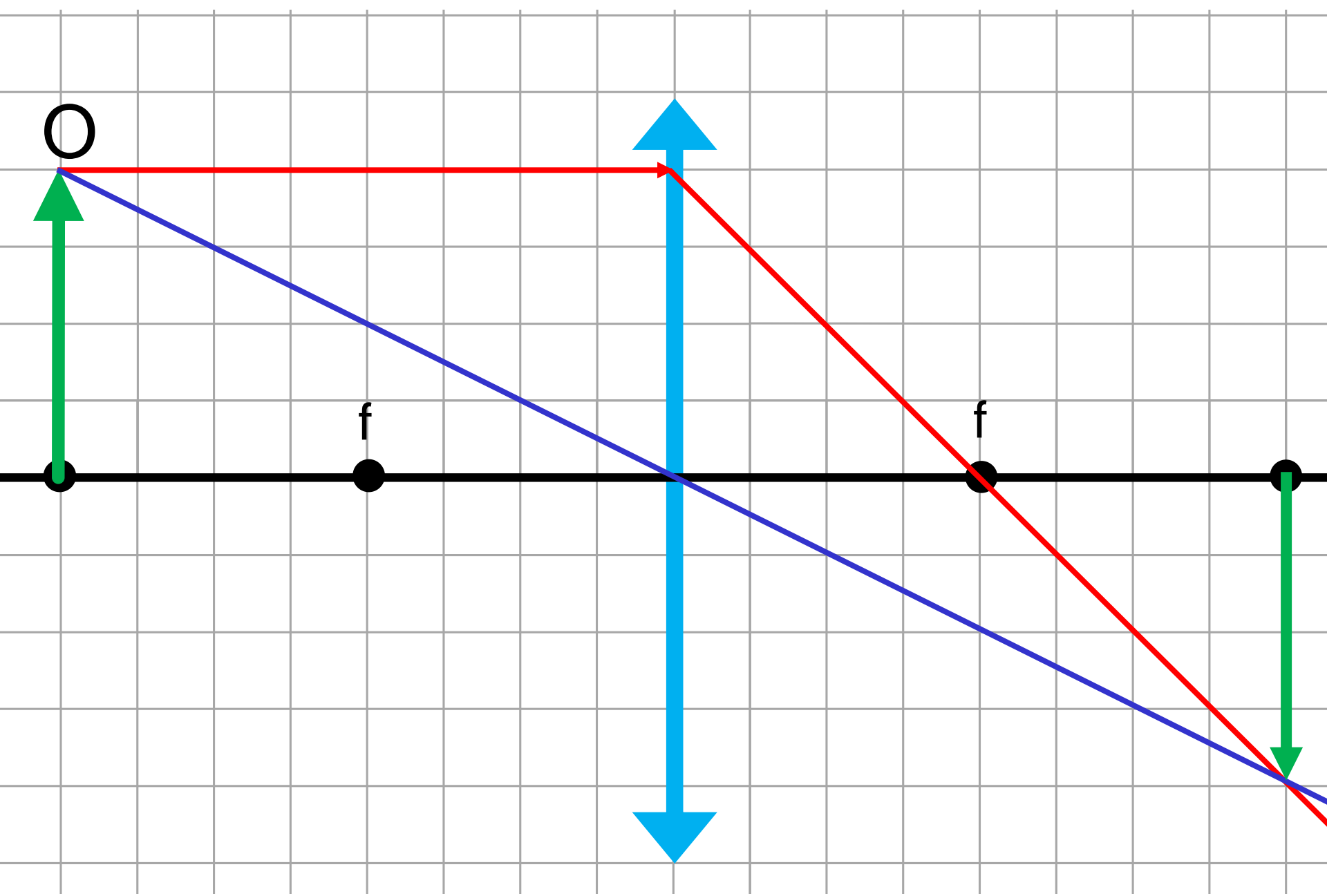








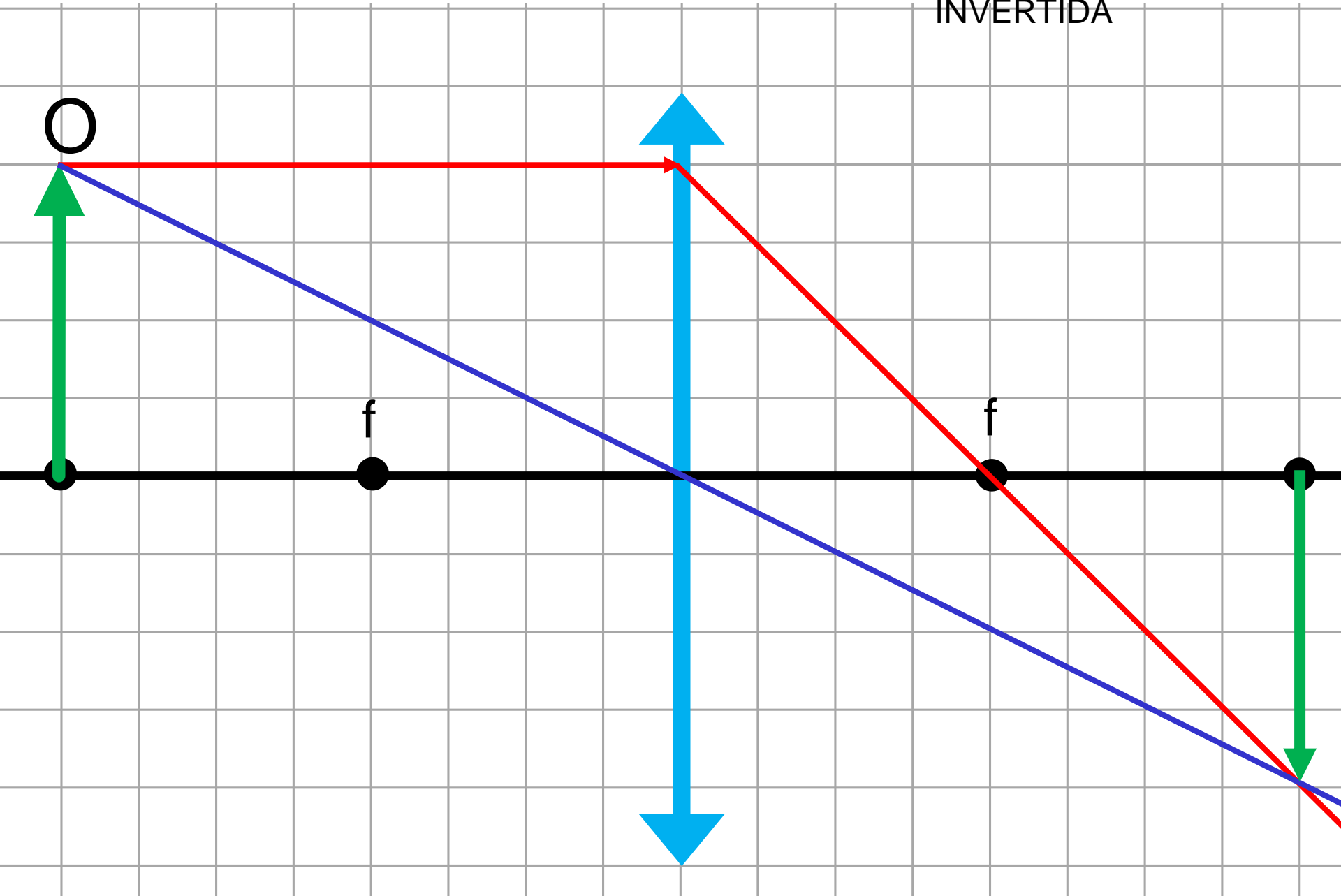
CLASSIFICAÇÃO: Imagem REAL



CLASSIFICAÇÃO:

Imagem

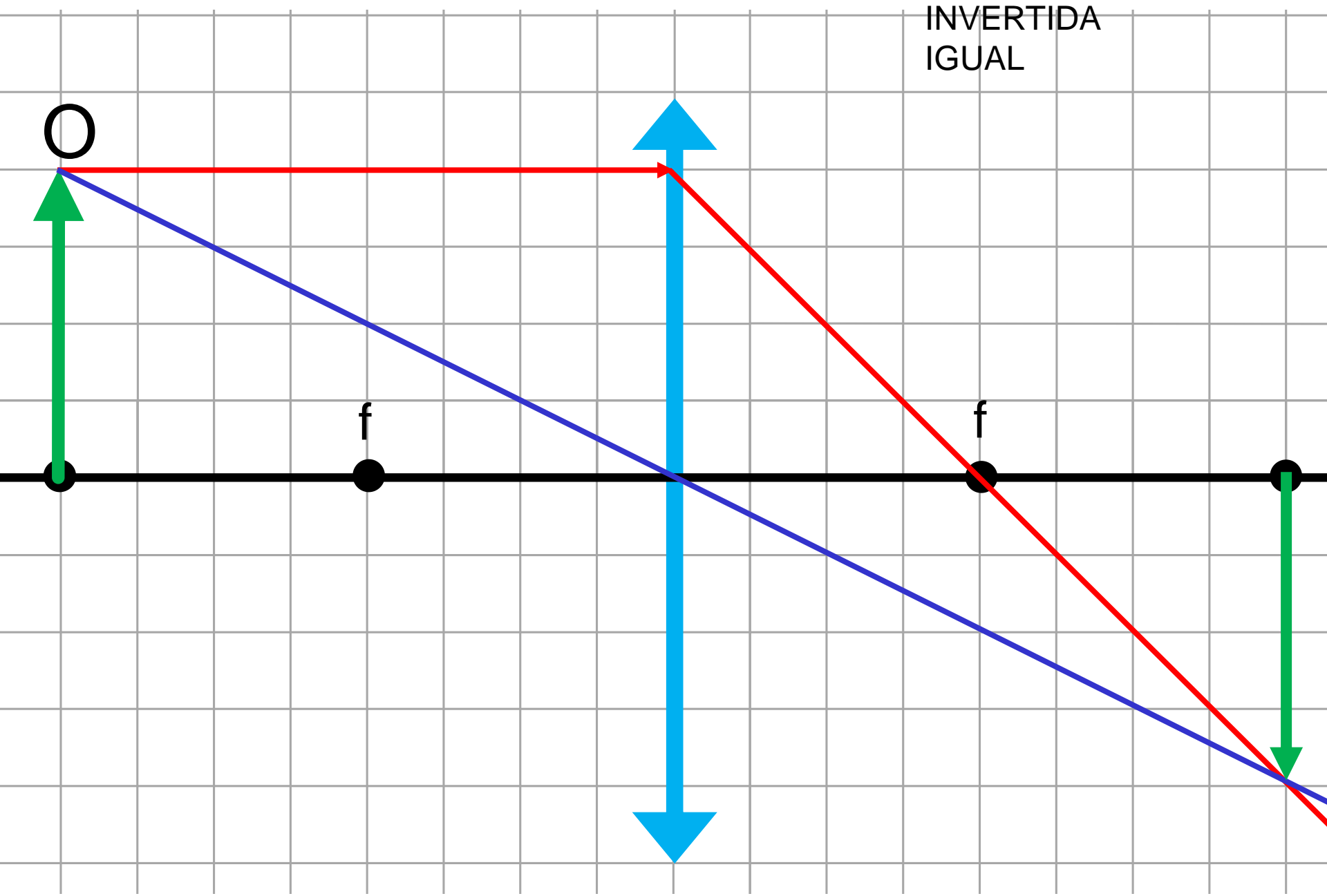
REAL
INVERTIDA



CLASSIFICAÇÃO:

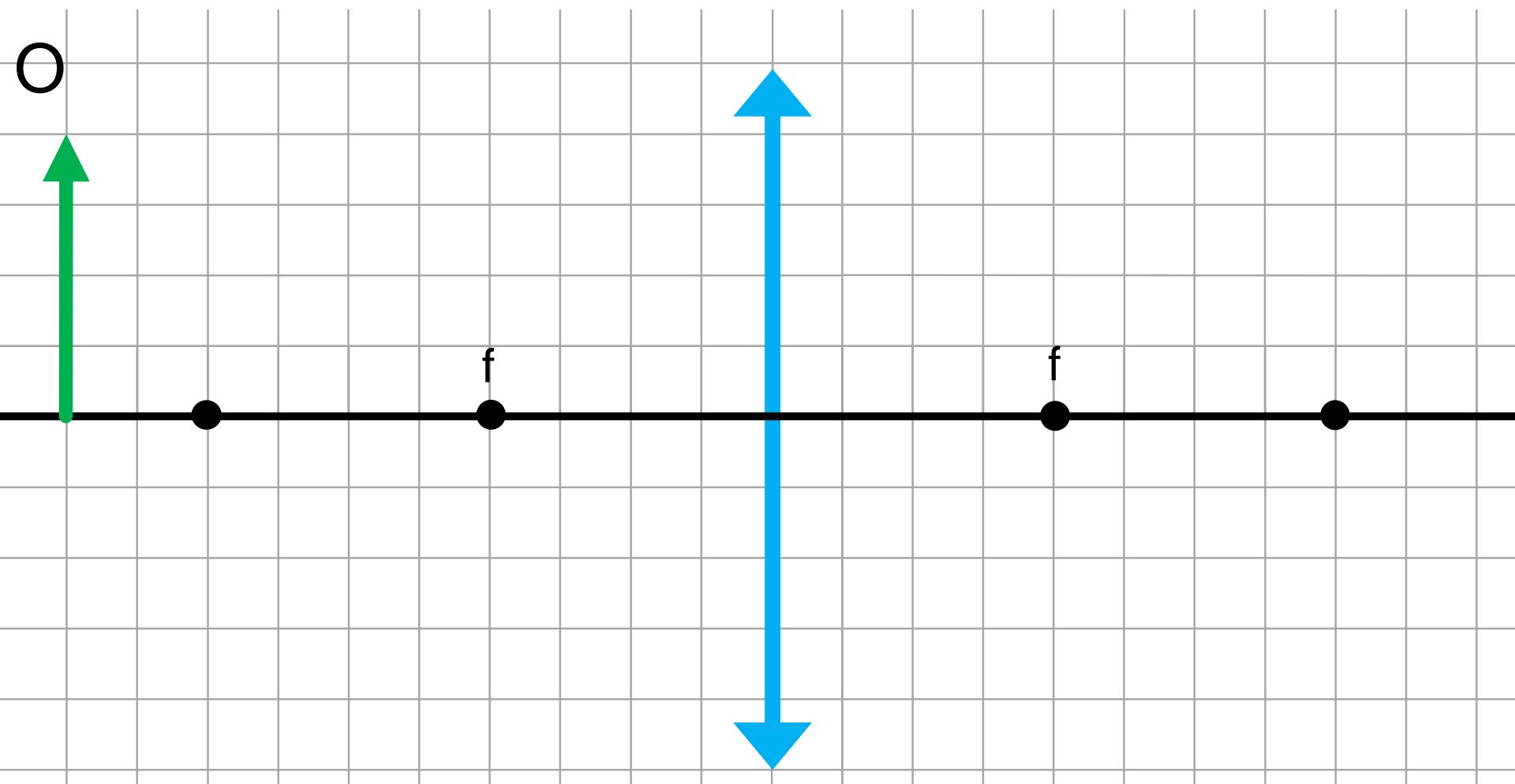
Imagem

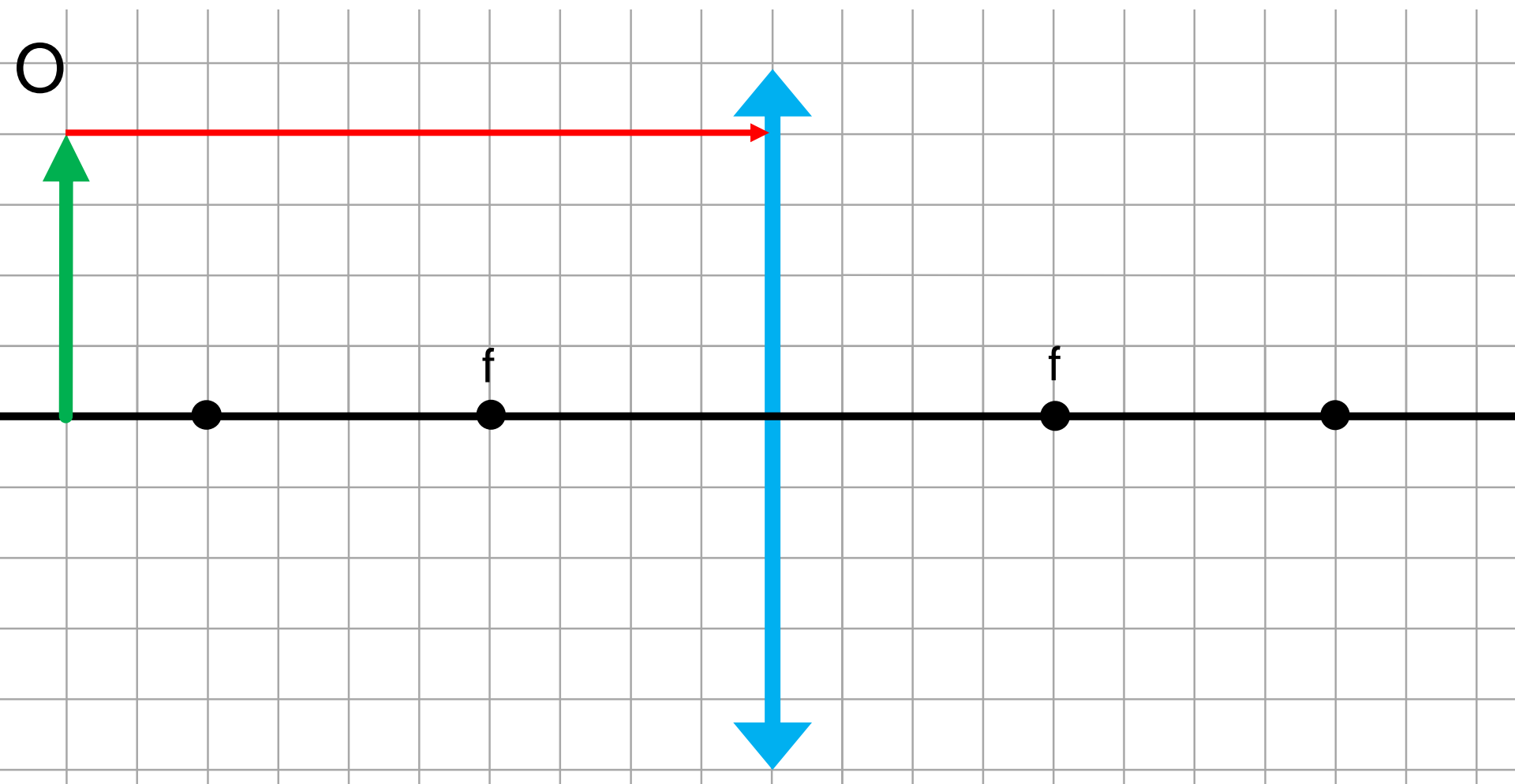
REAL
INVERTIDA
IGUAL

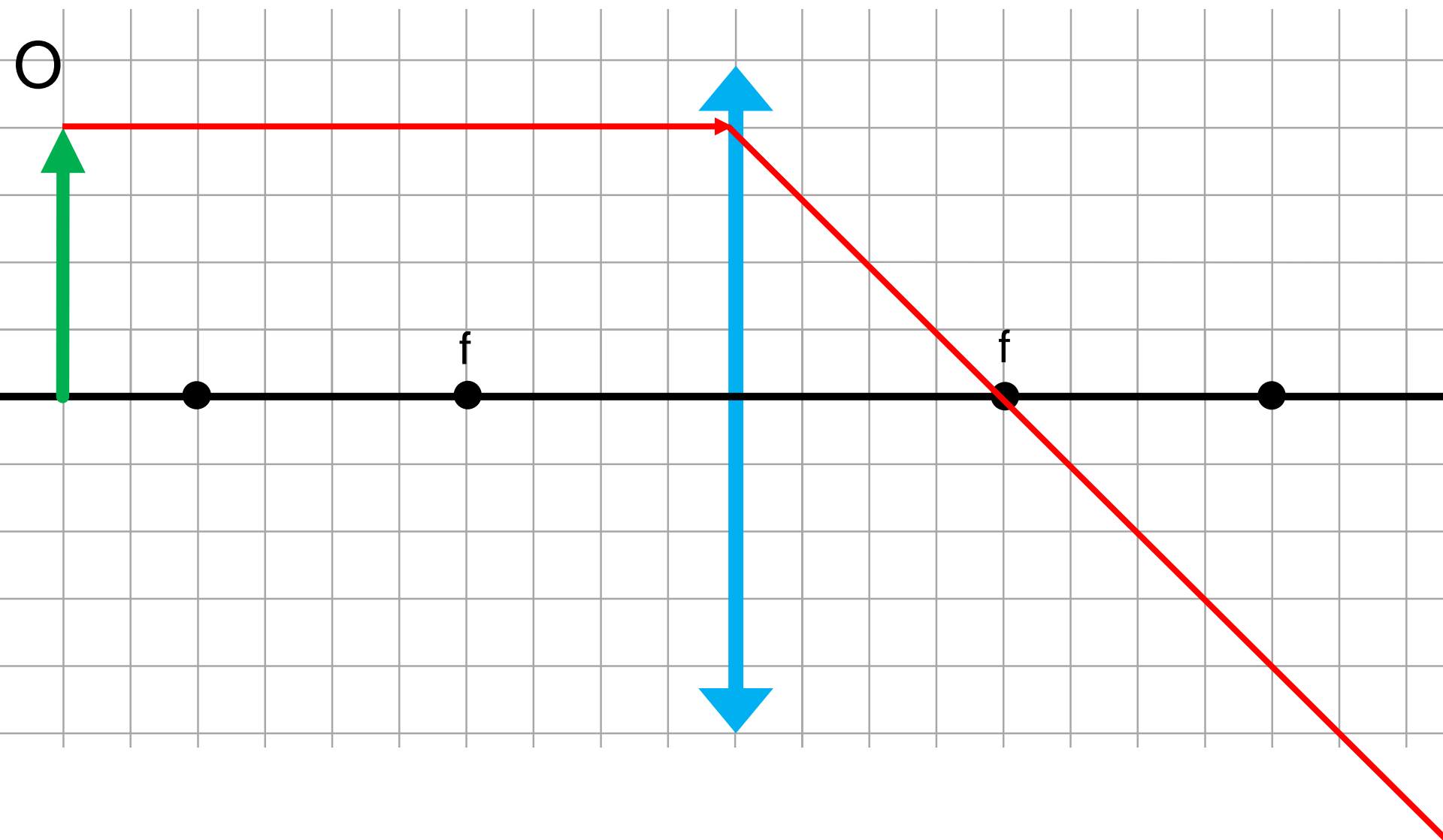


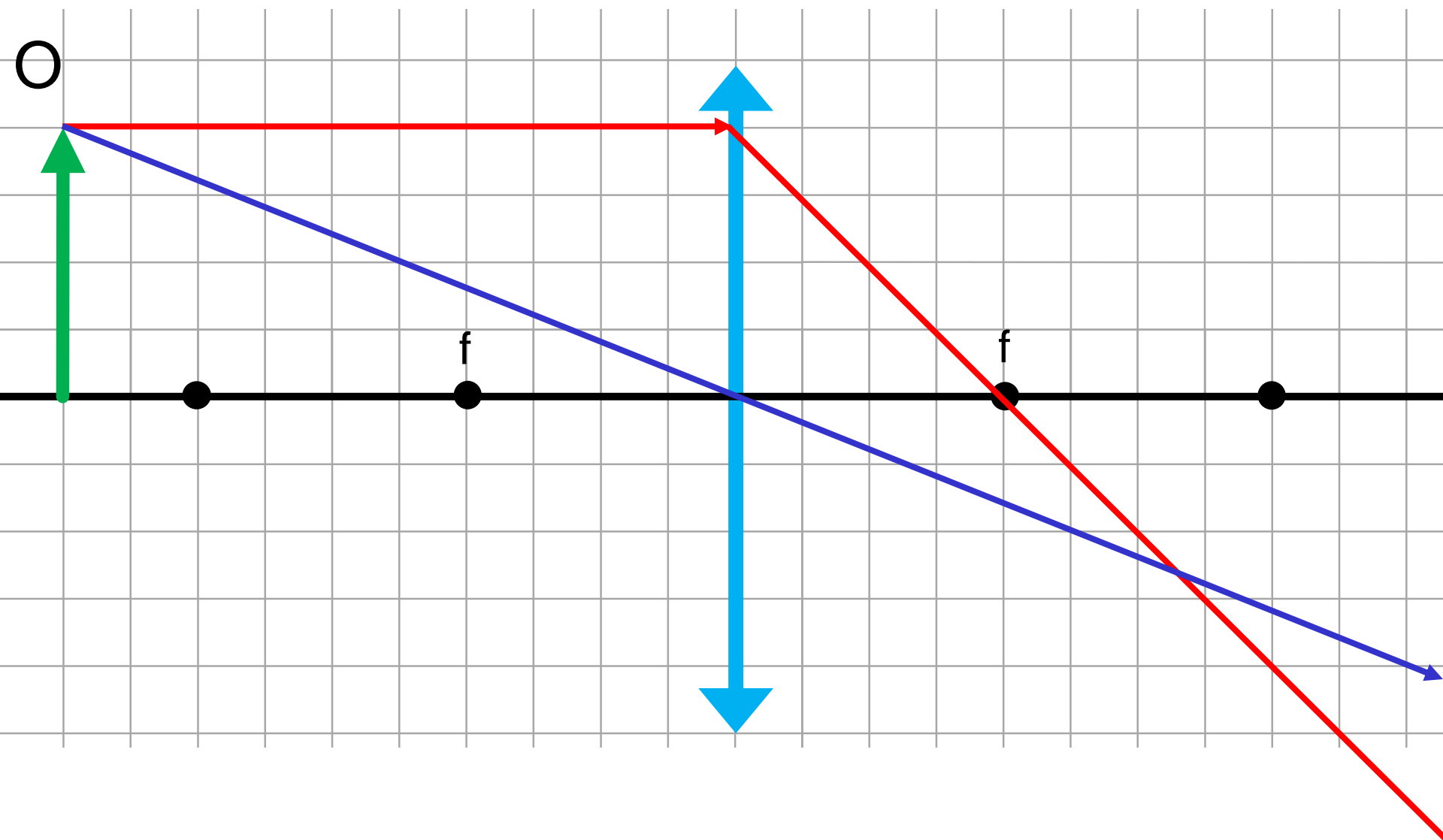


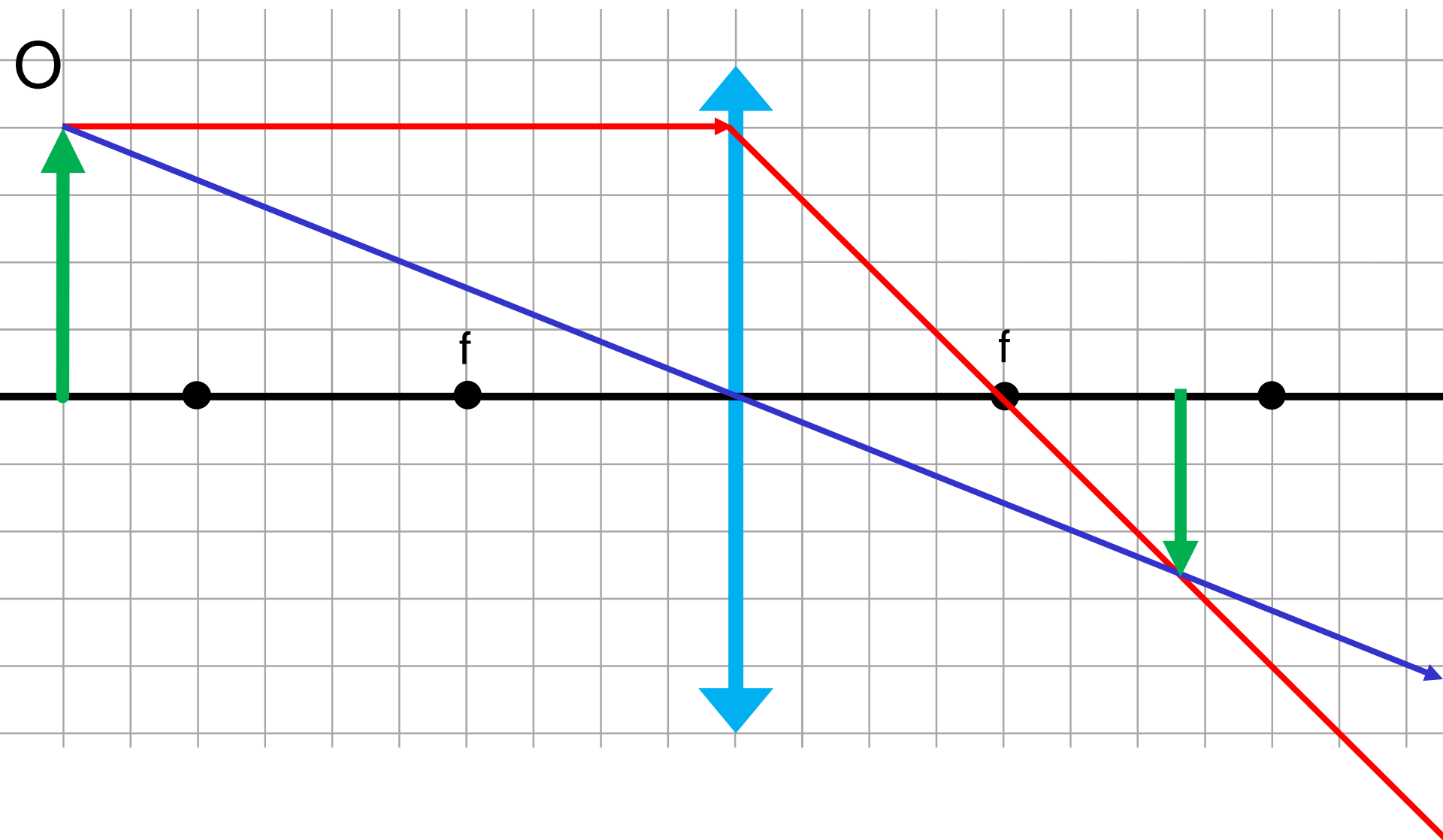
Quinto caso



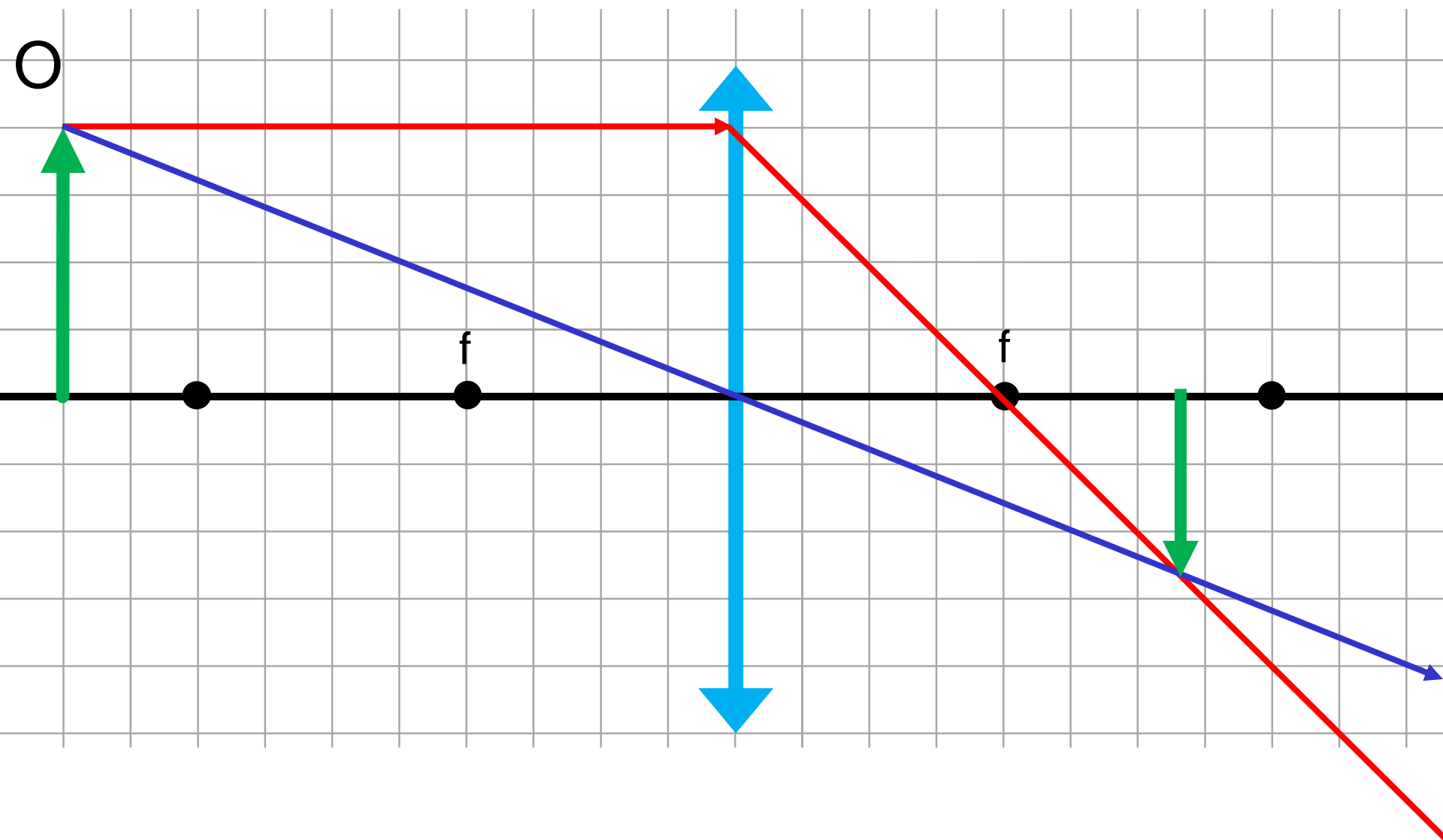








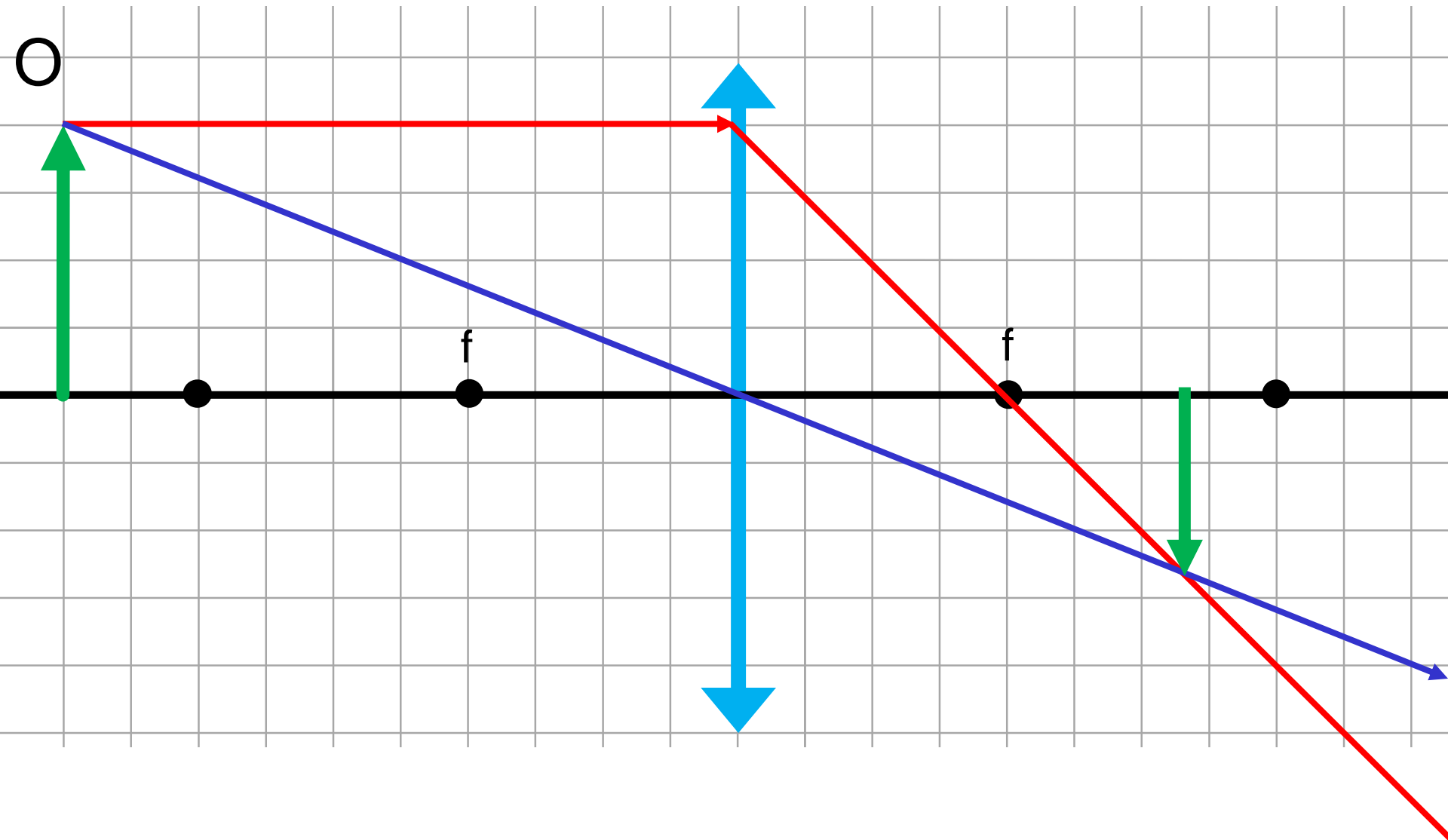
CLASSIFICAÇÃO: Imagem REAL



CLASSIFICAÇÃO:

Imagem

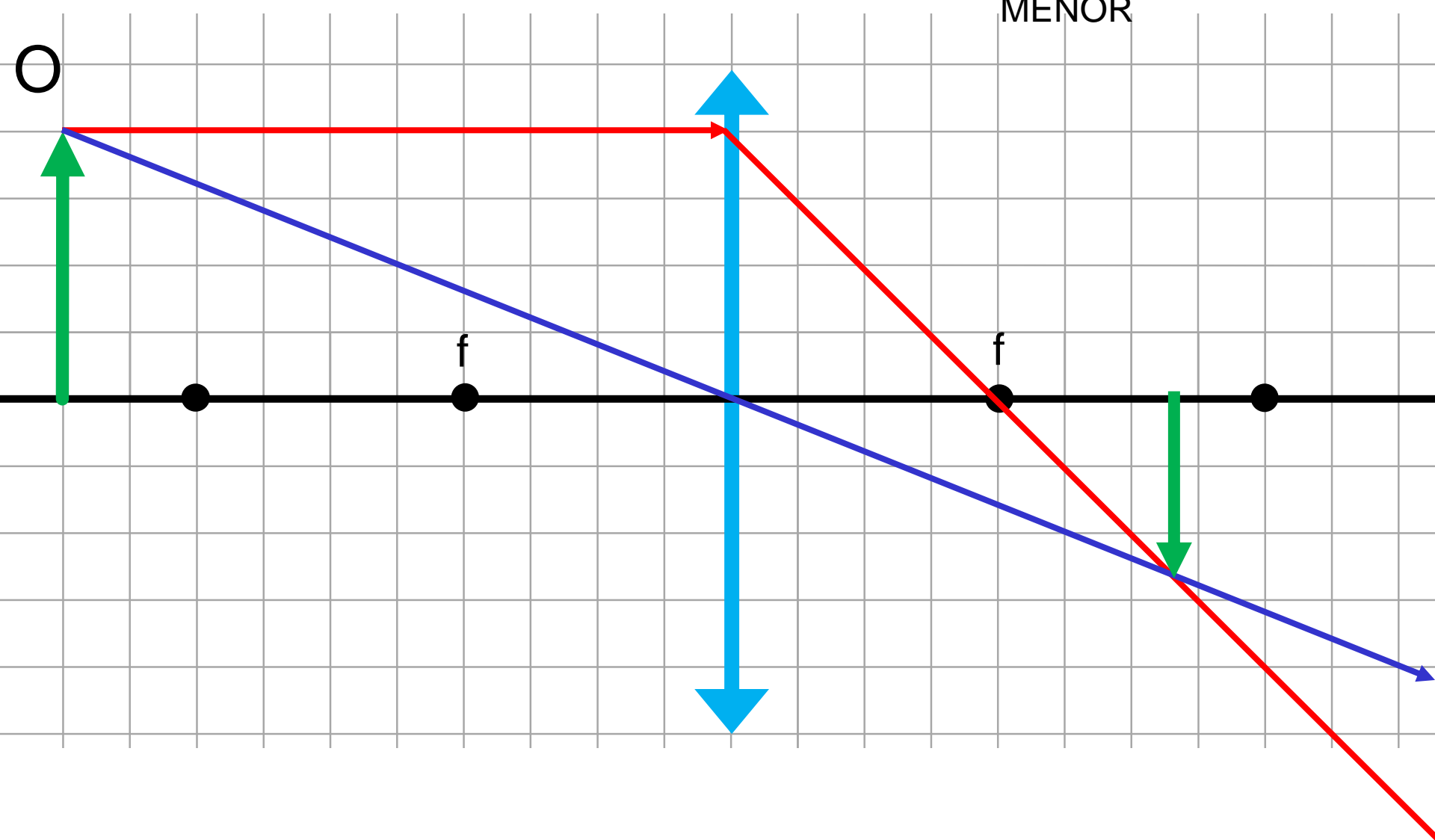
REAL
INVERTIDA




CLASSIFICAÇÃO:

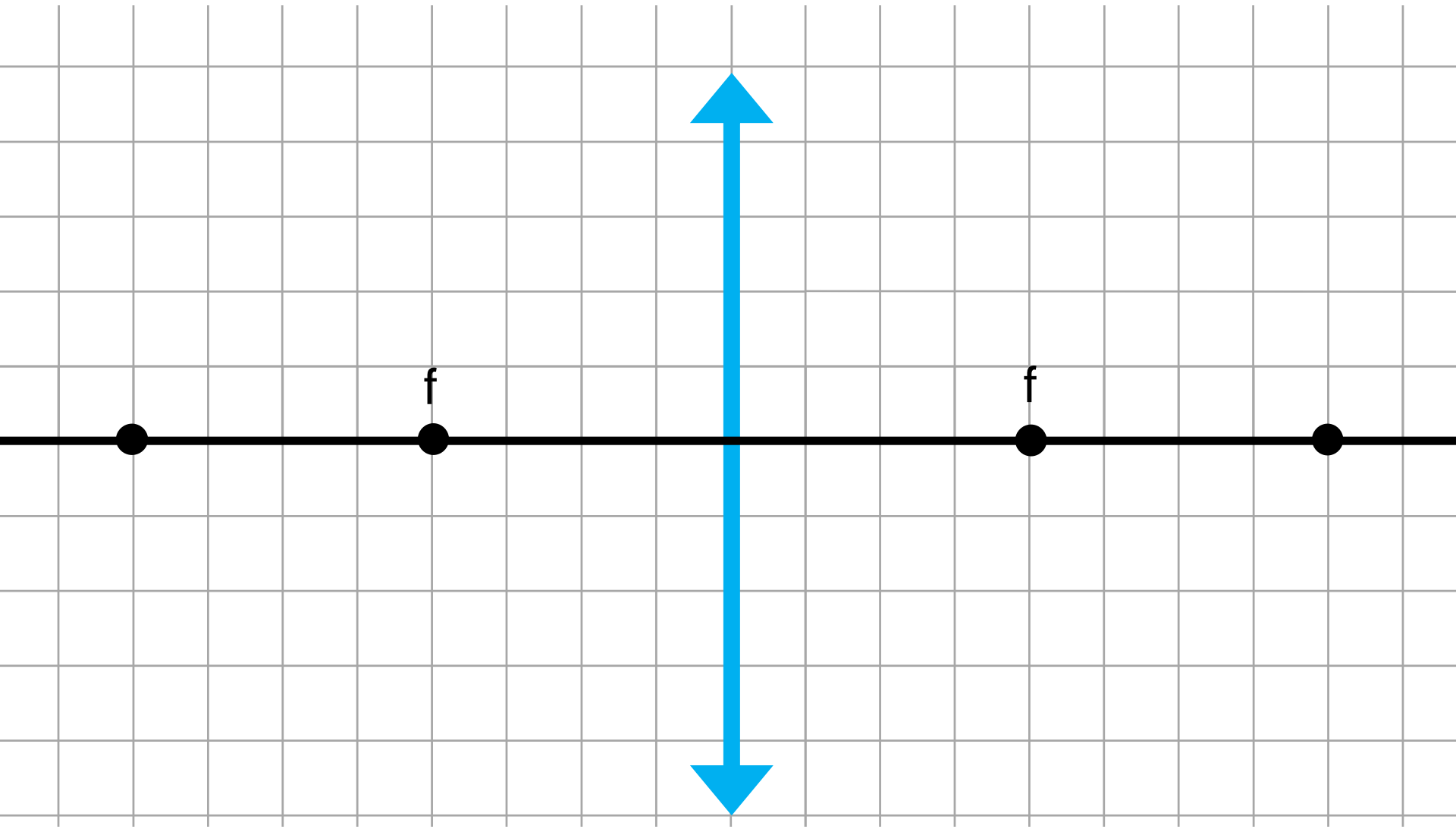
Imagem

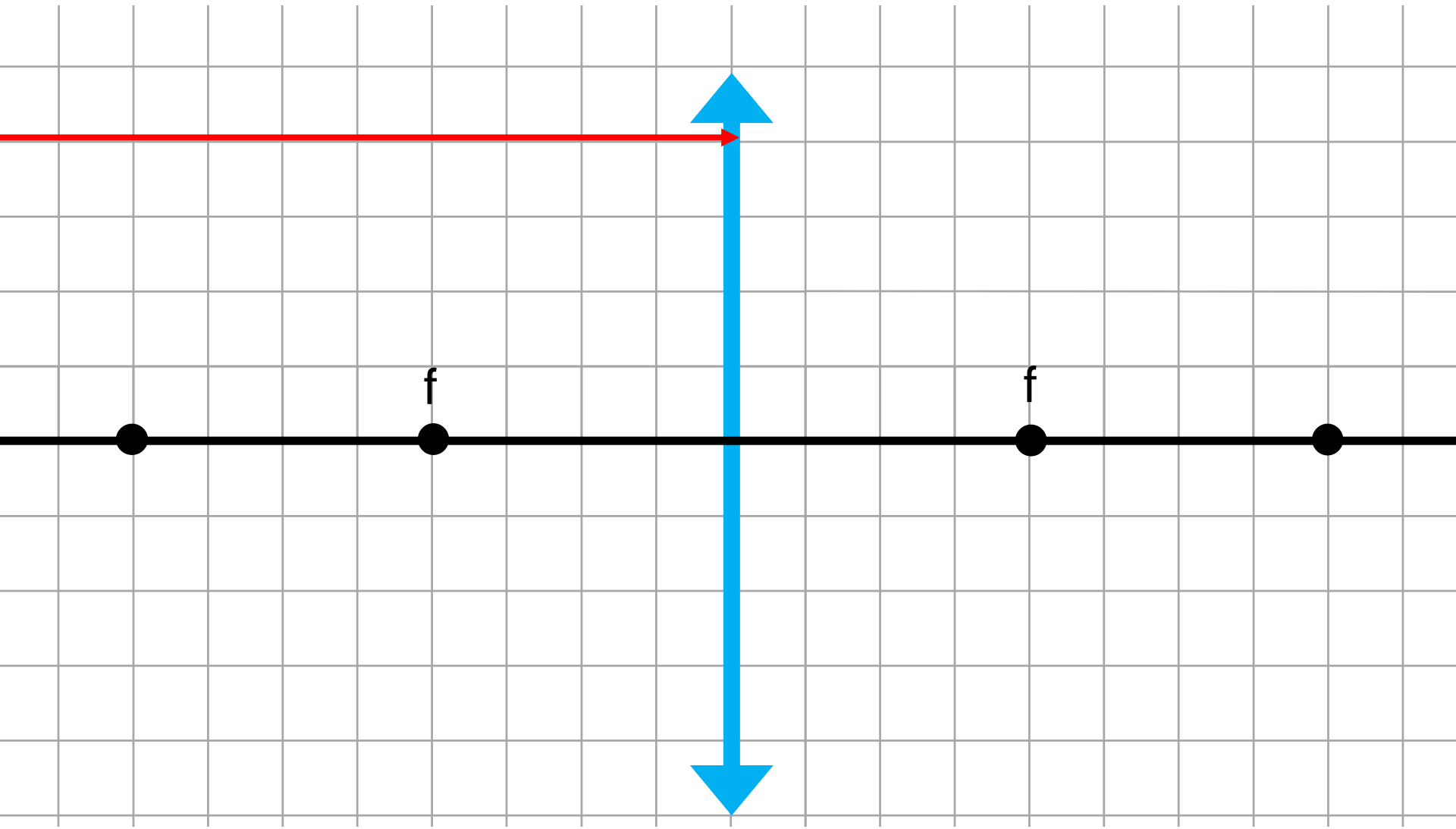
REAL
INVERTIDA
MENOR

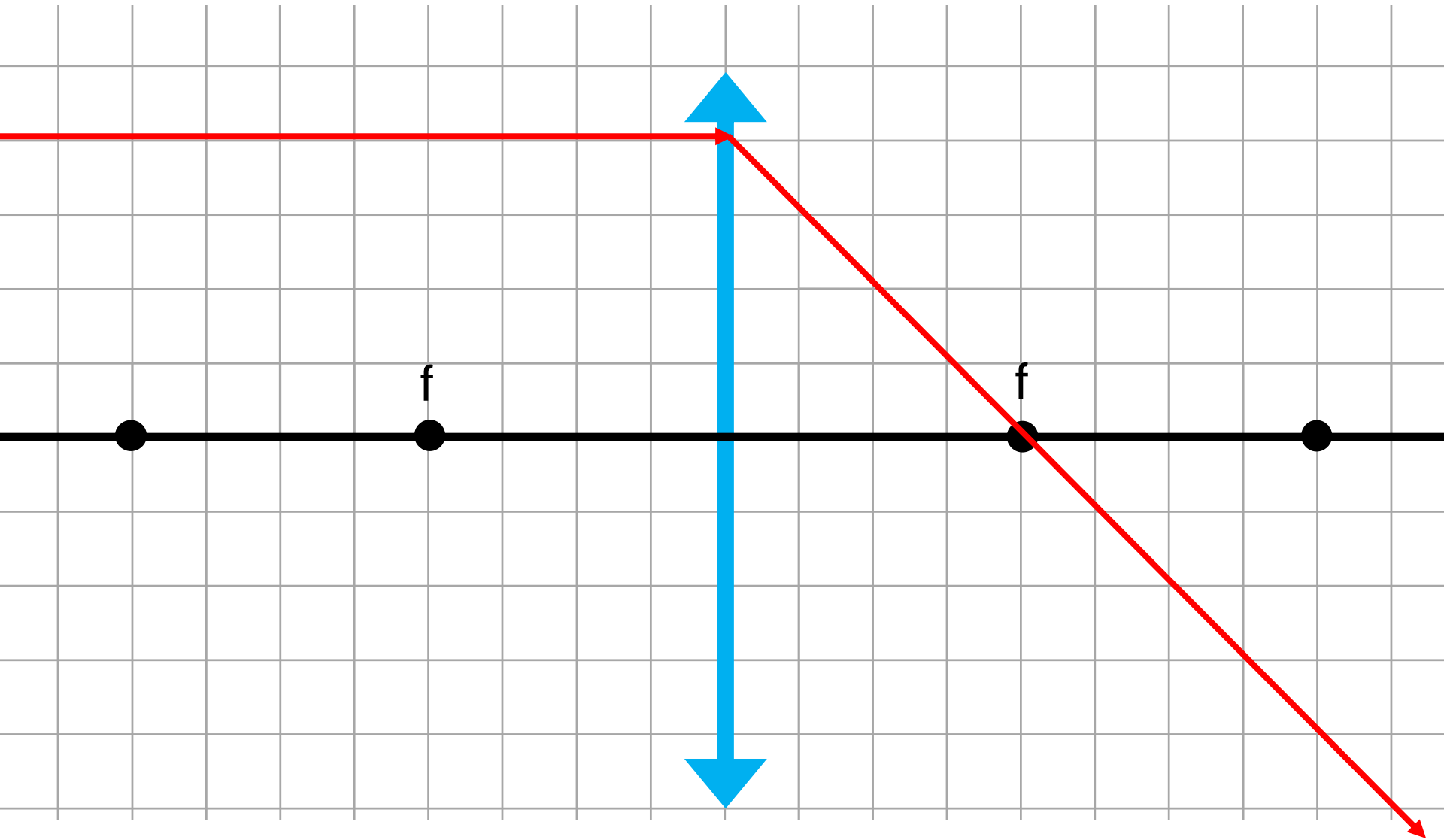


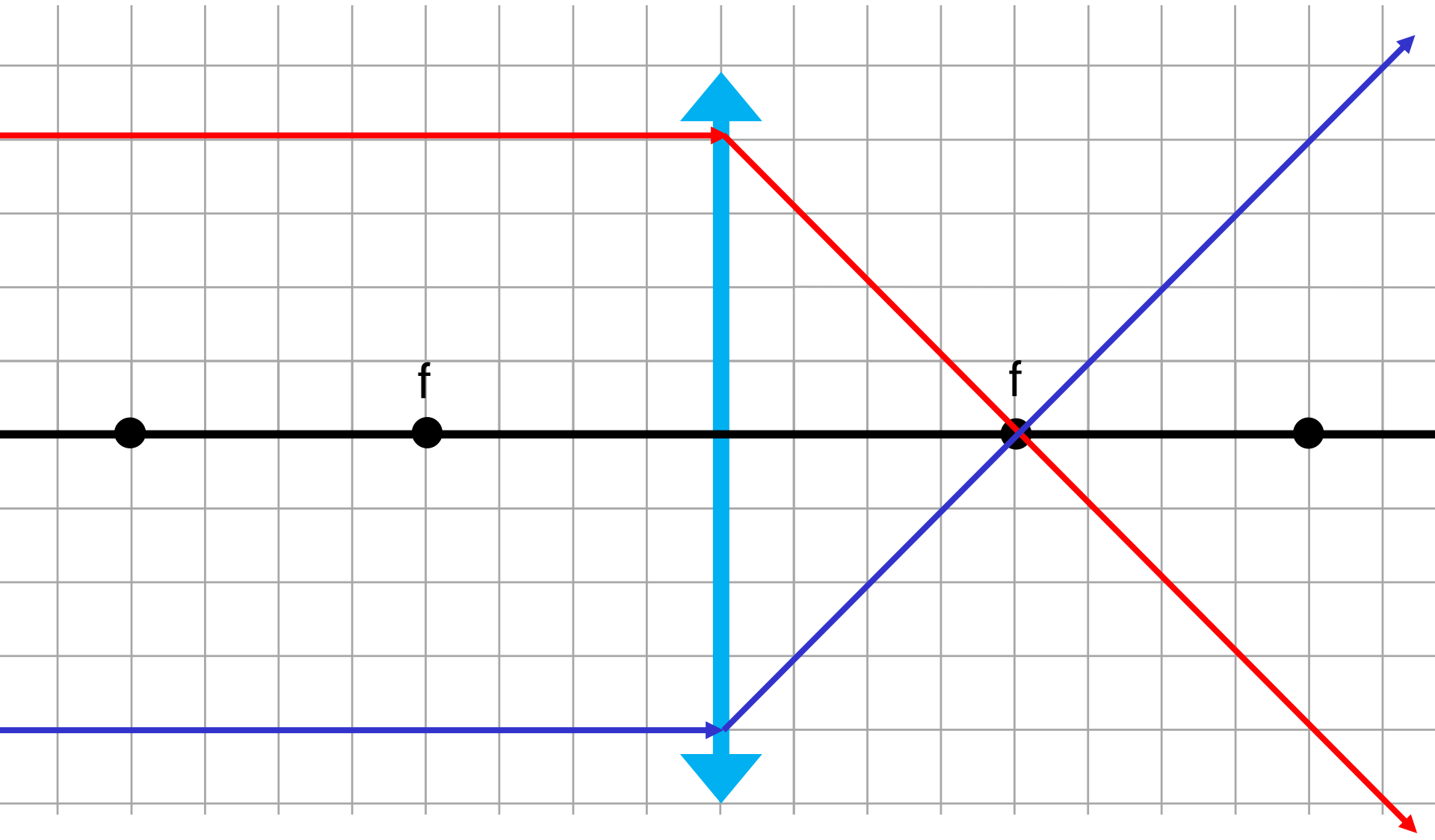


Sexto Caso

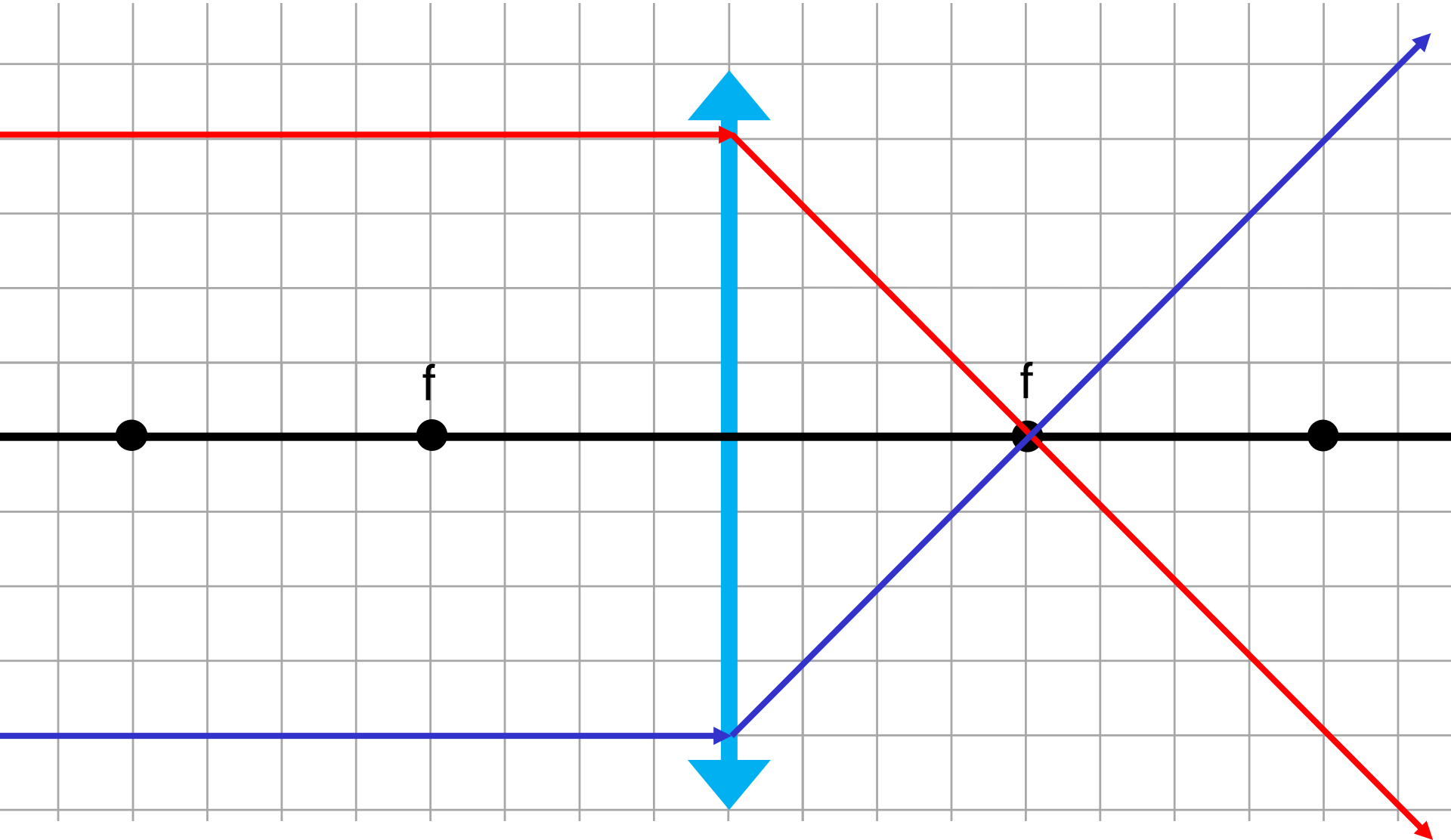






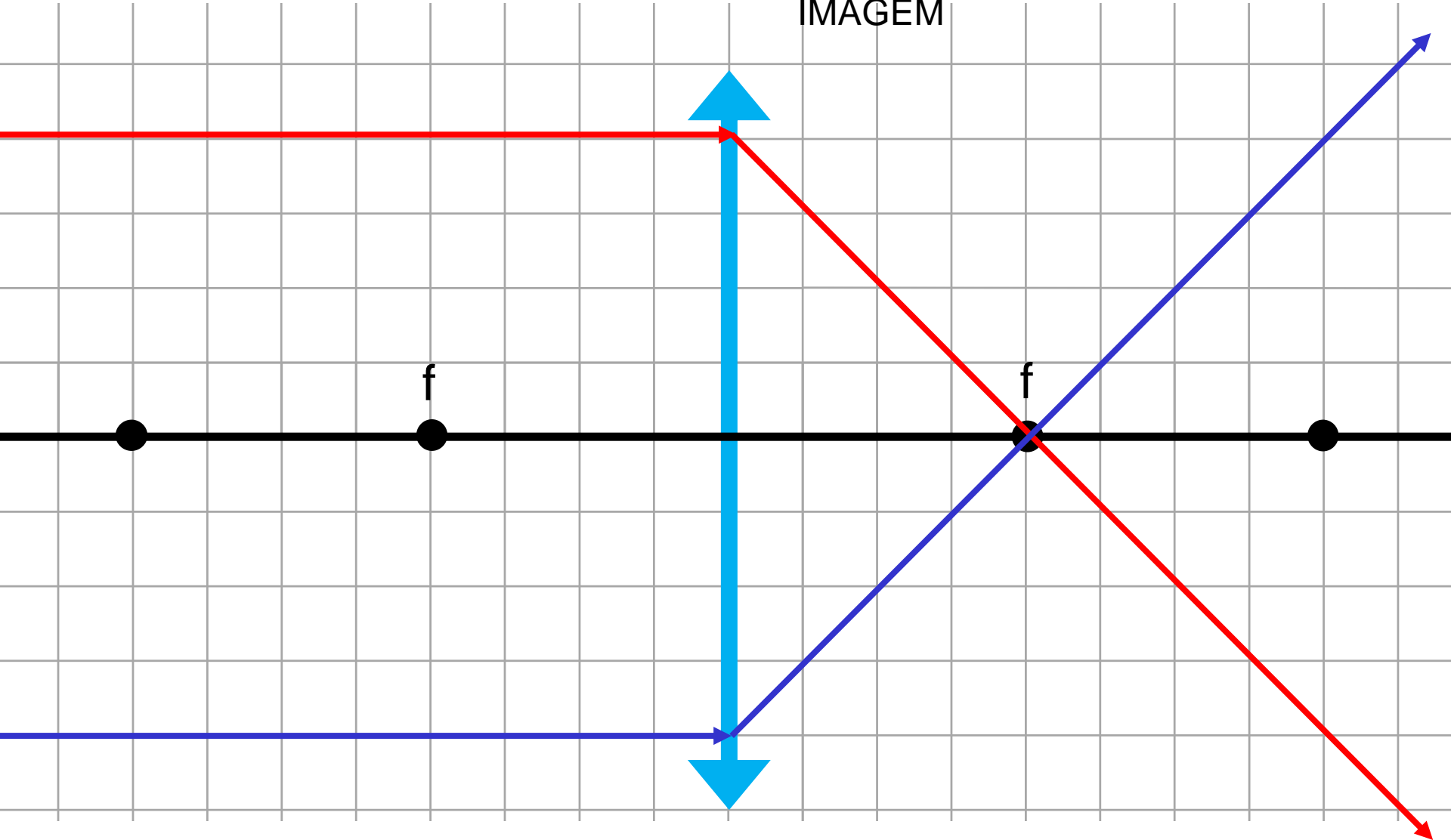


CLASSIFICAÇÃO: Imagem



CLASSIFICAÇÃO:

Imagem PONTUAL, REAL
E LOCALIZADA NO FOCO
IMAGEM

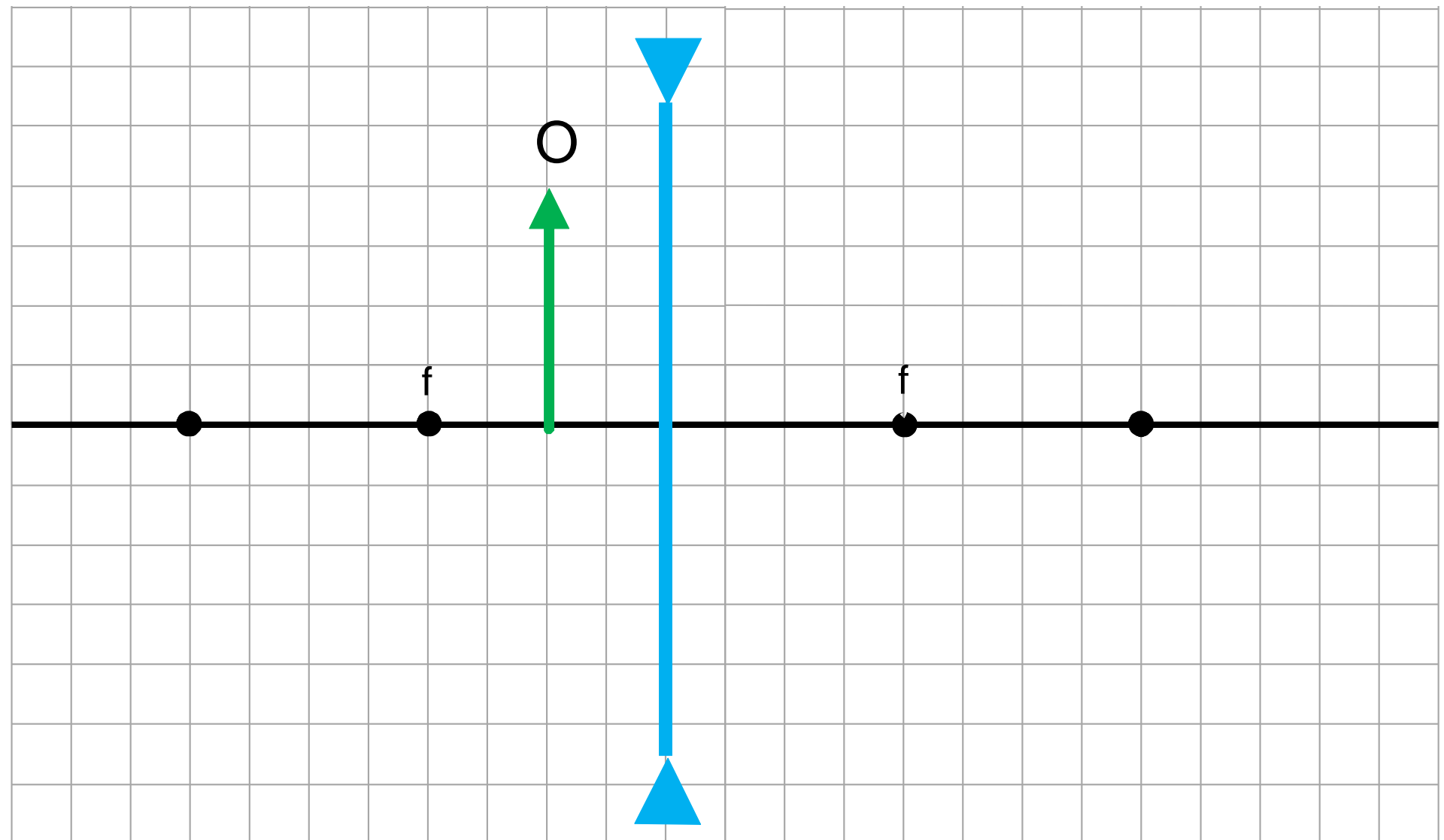


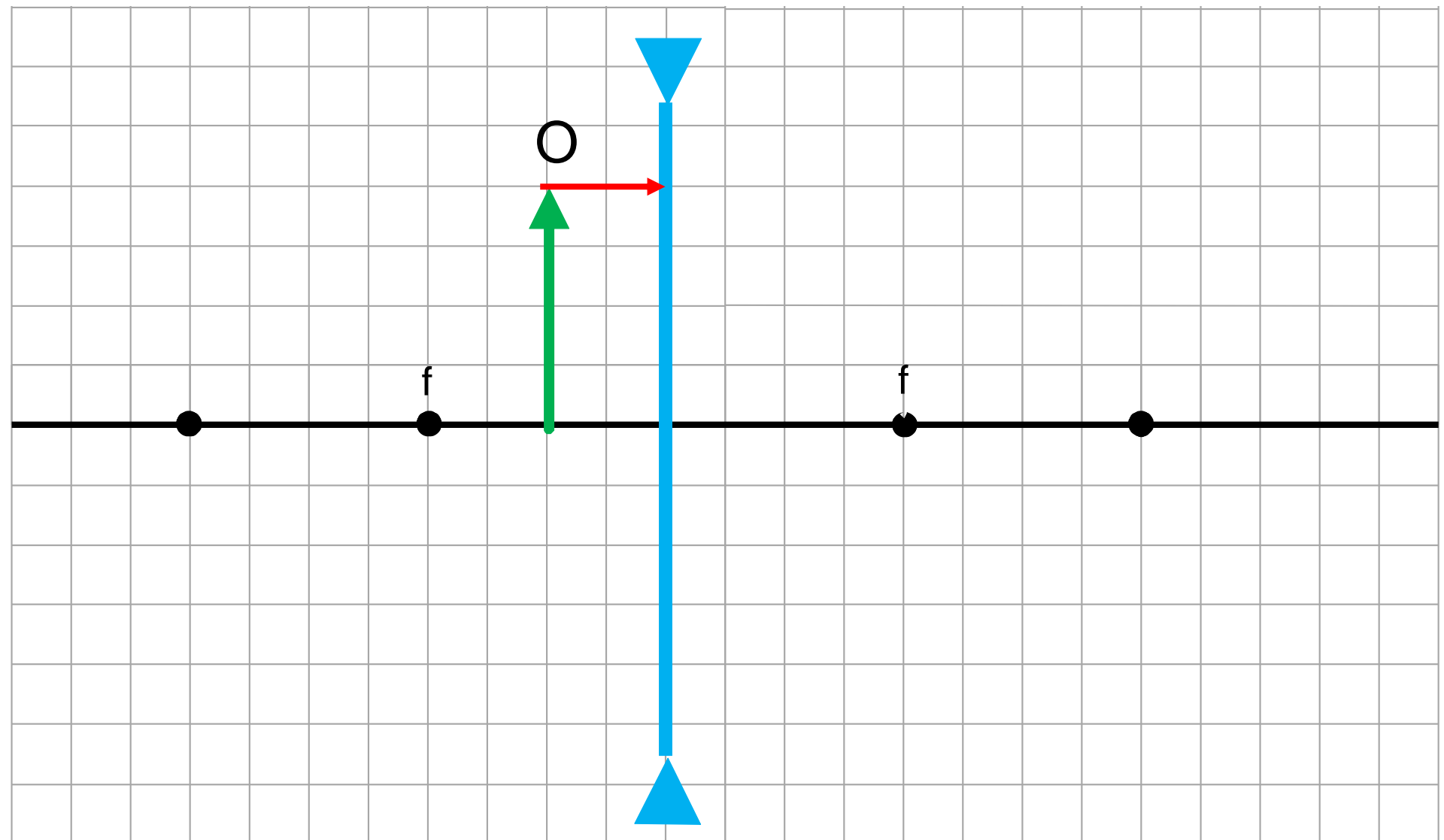


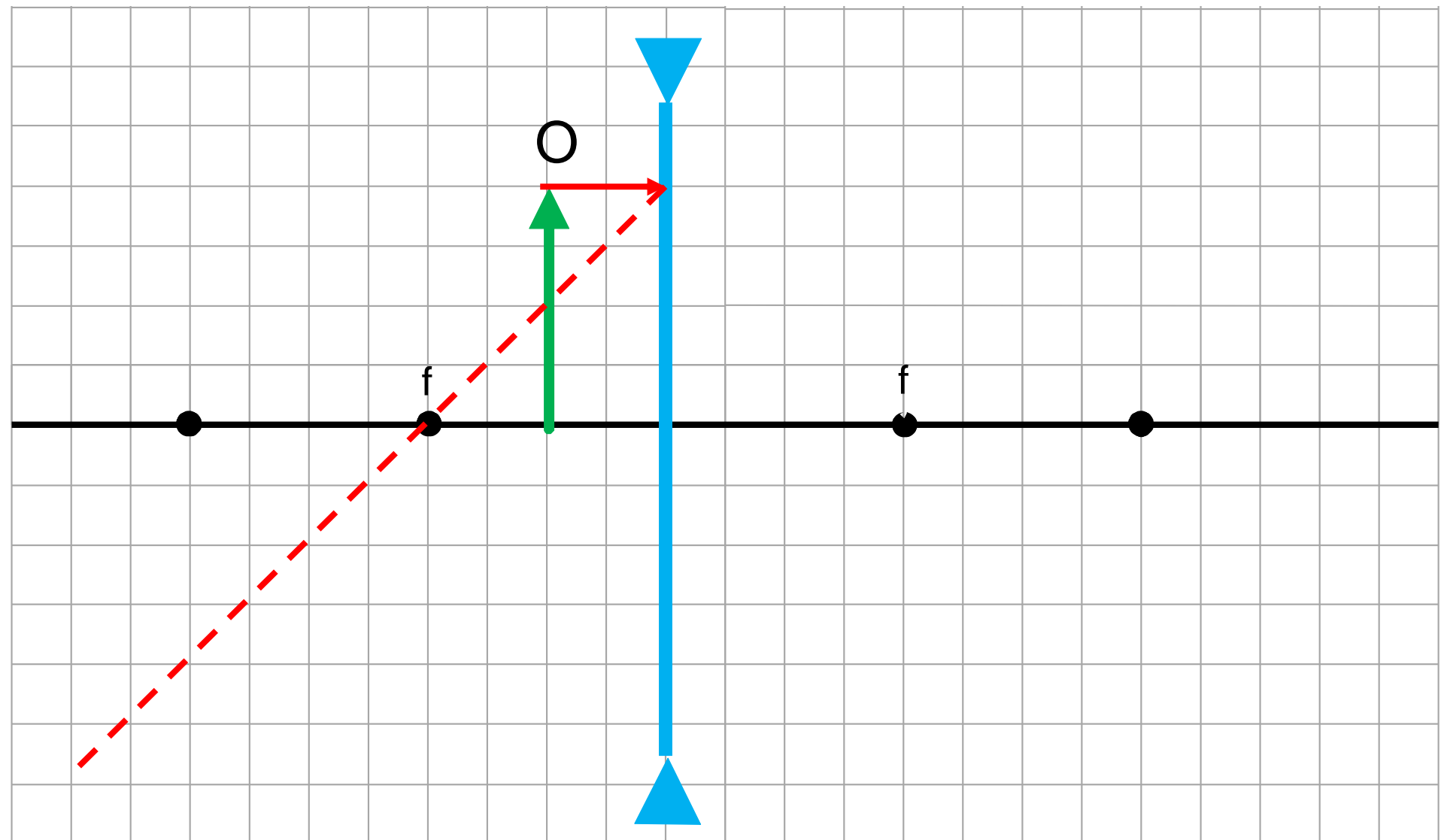
LENTES DIVERGENTES

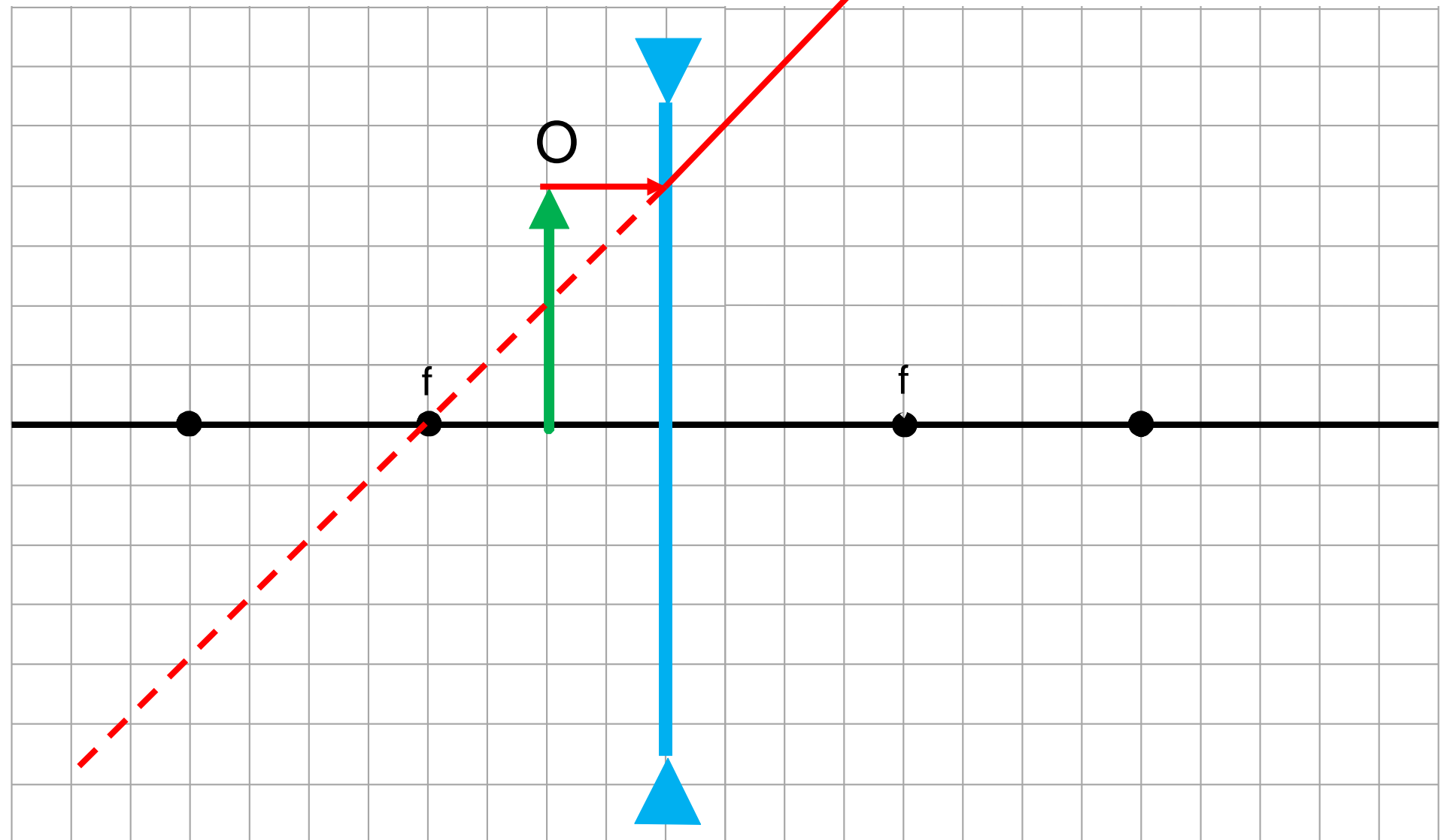


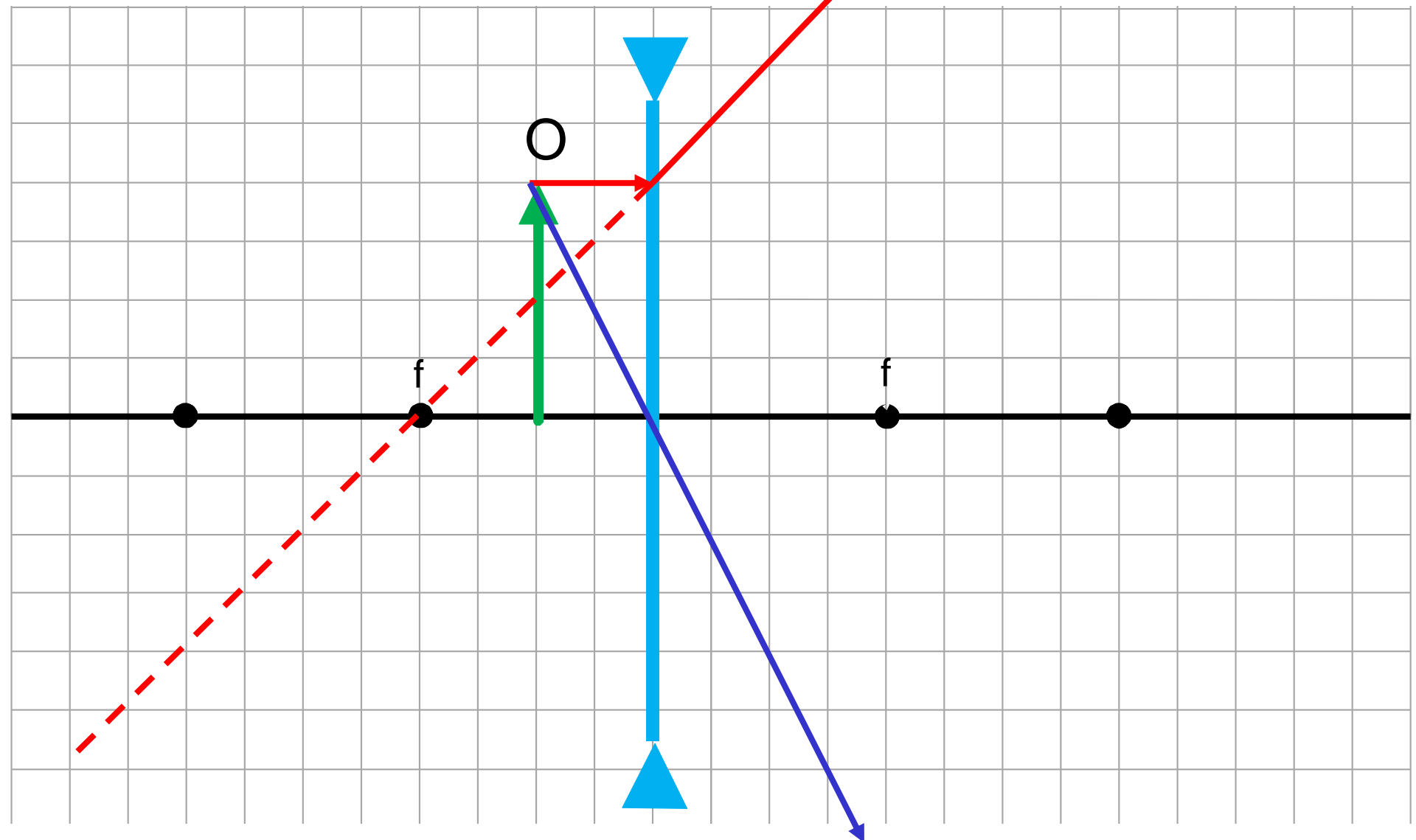
Primeiro caso

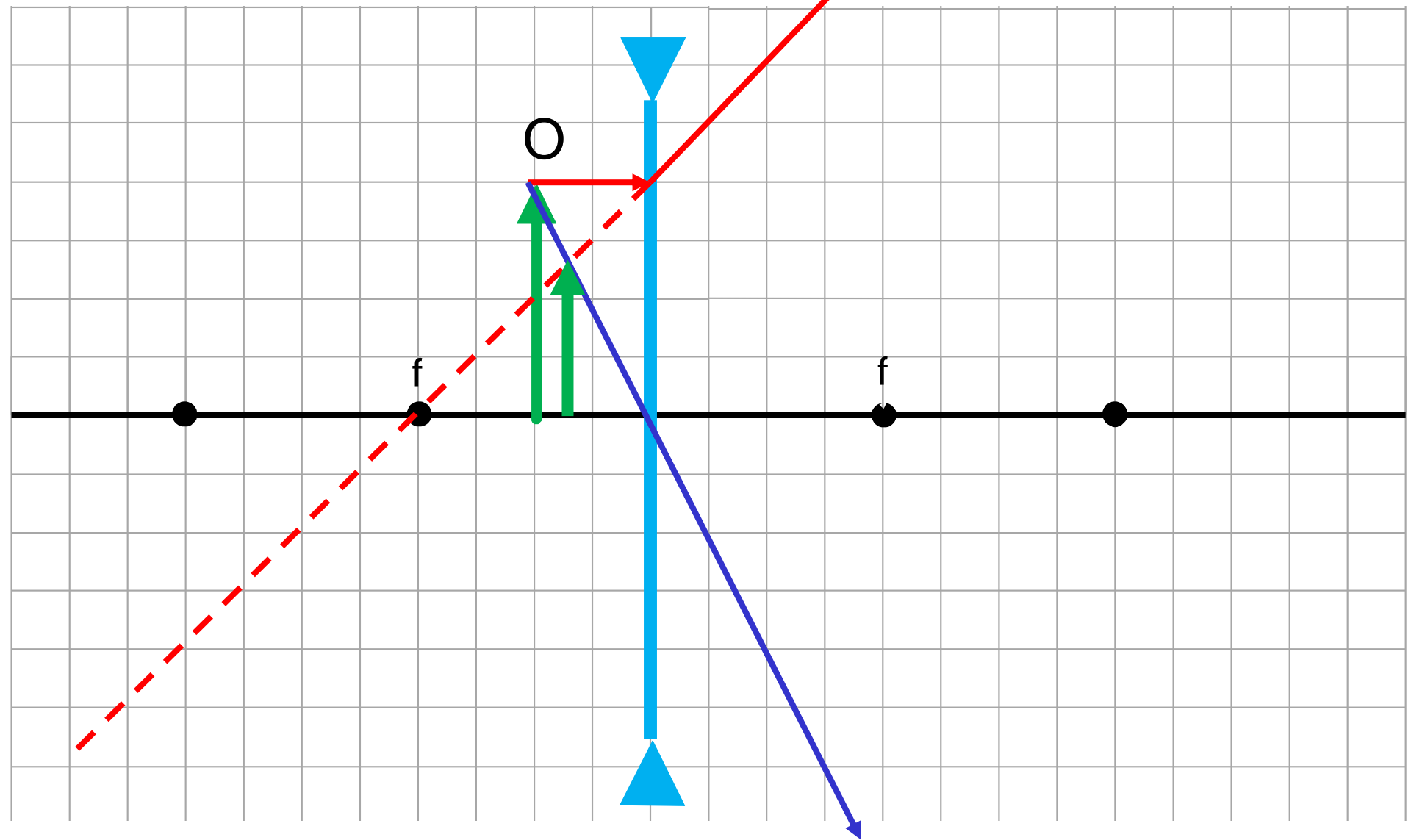








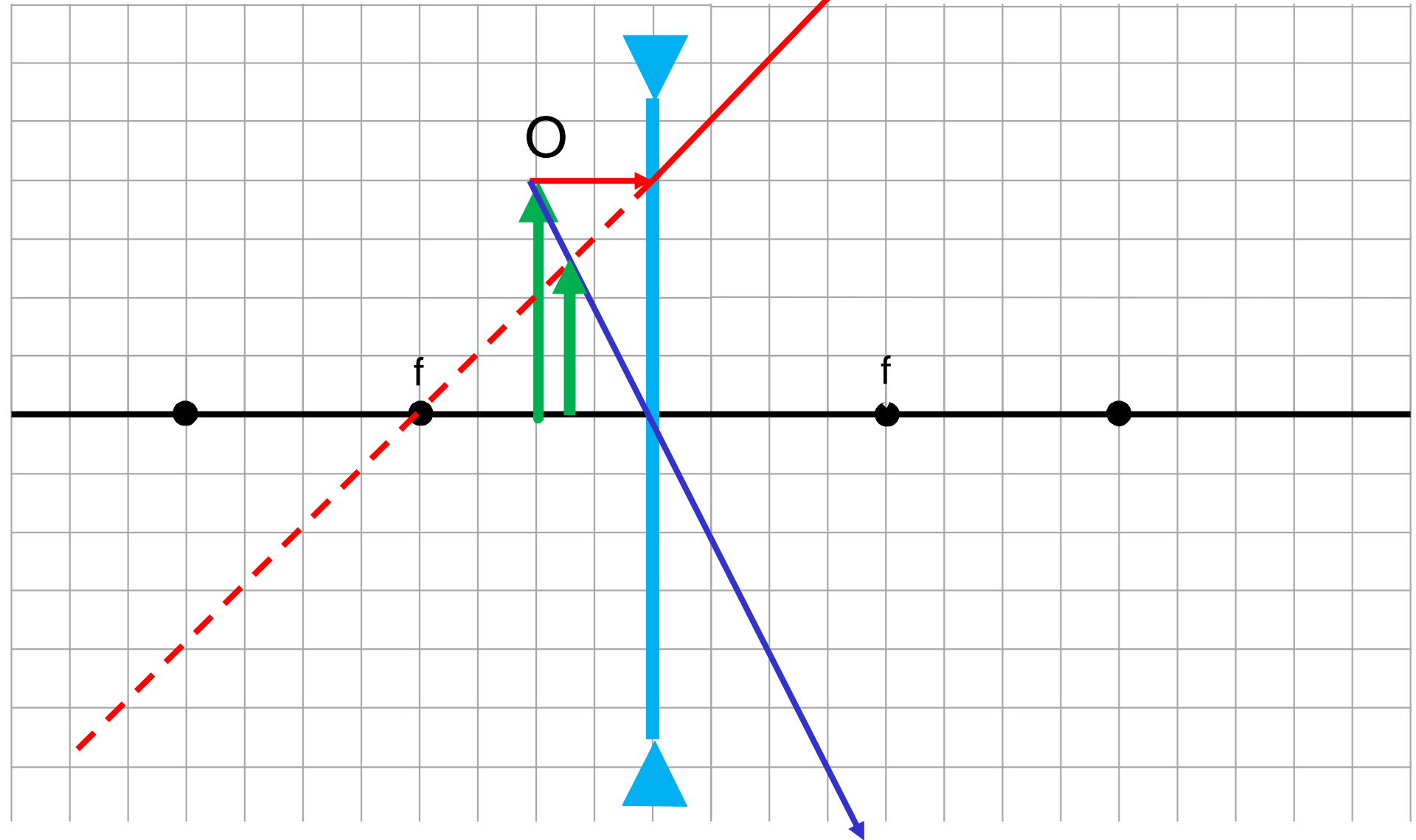




CLASSIFICAÇÃO:

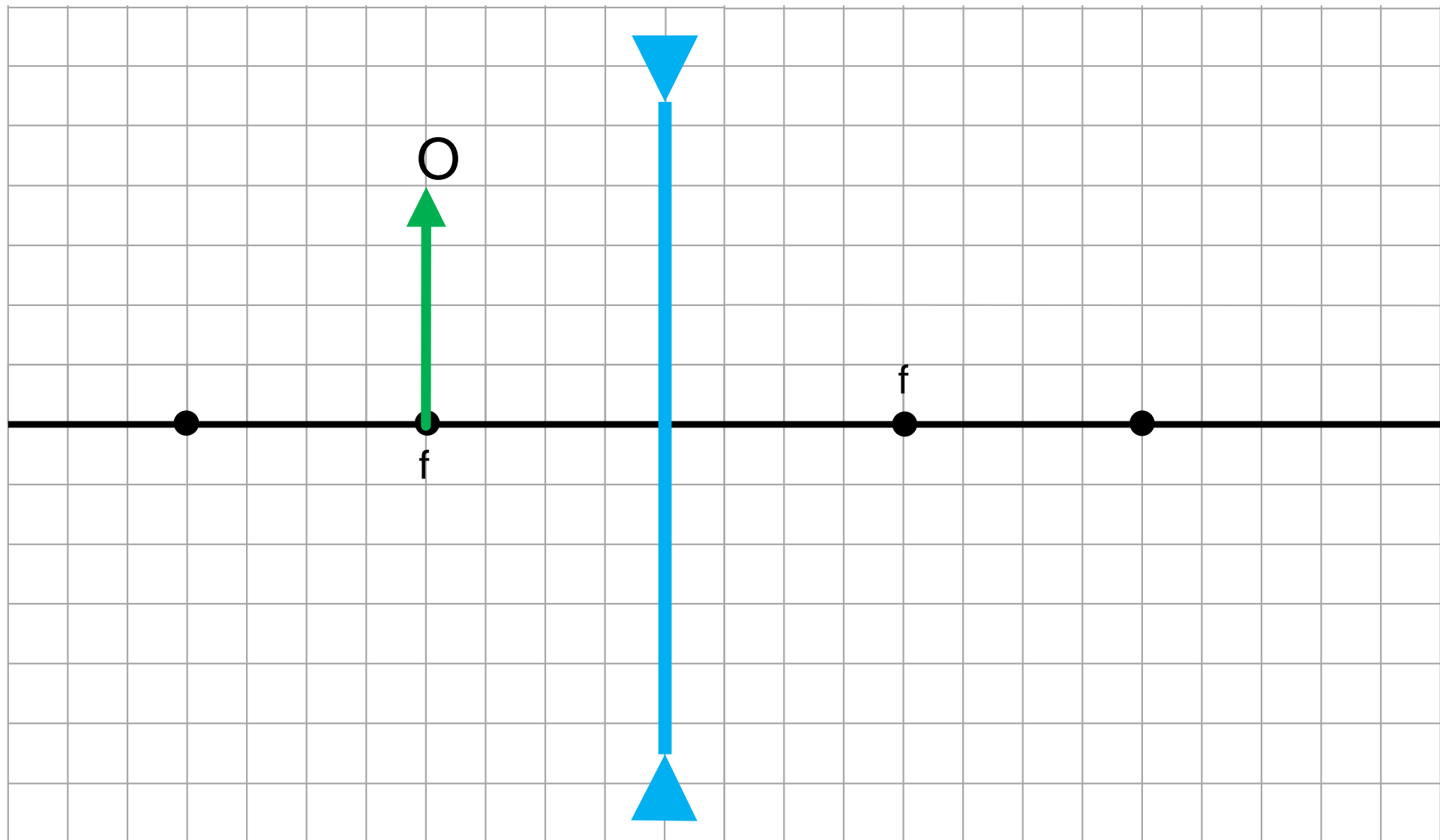
Imagem

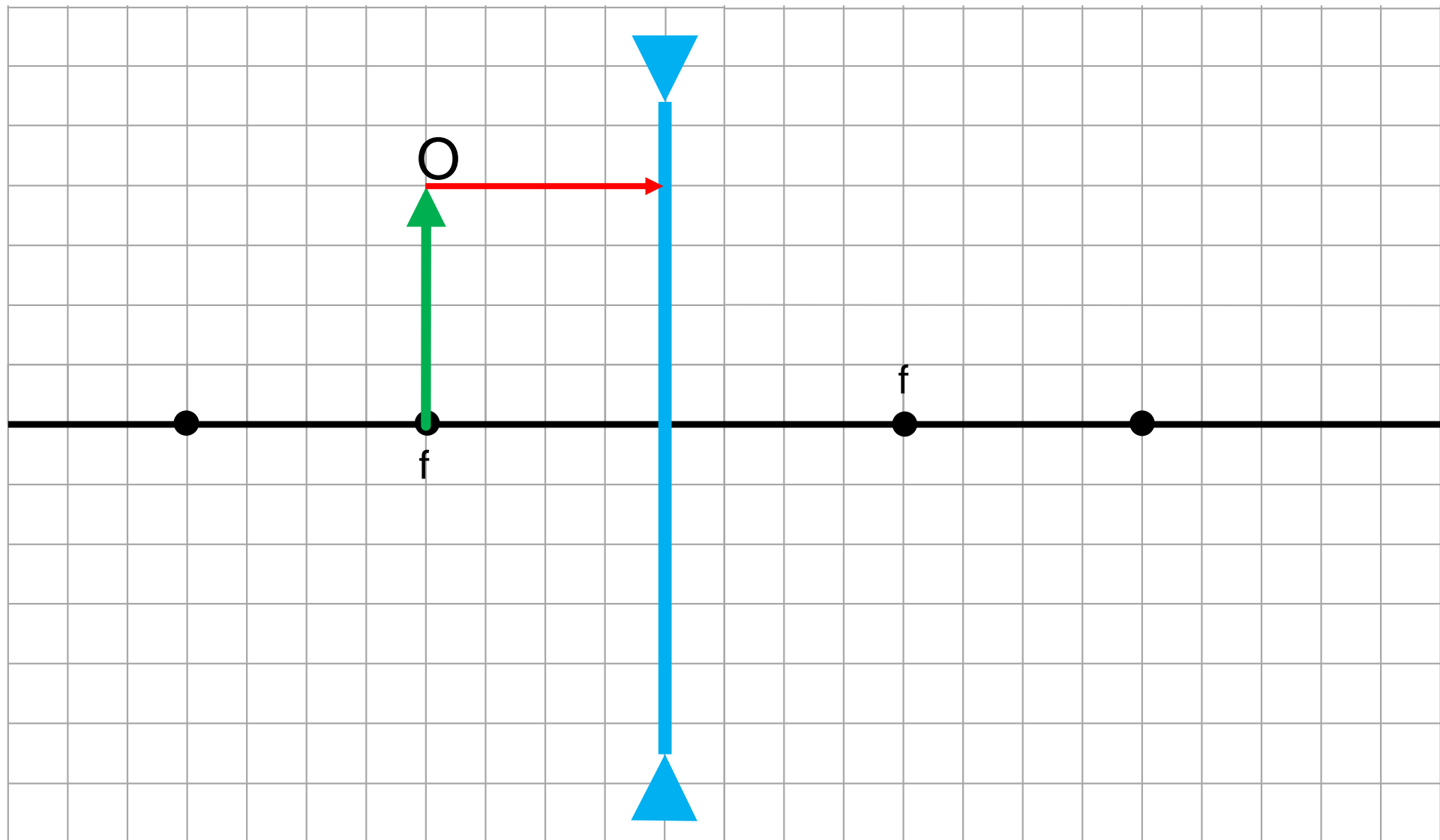
VIRTUAL
DIREITA
MENOR

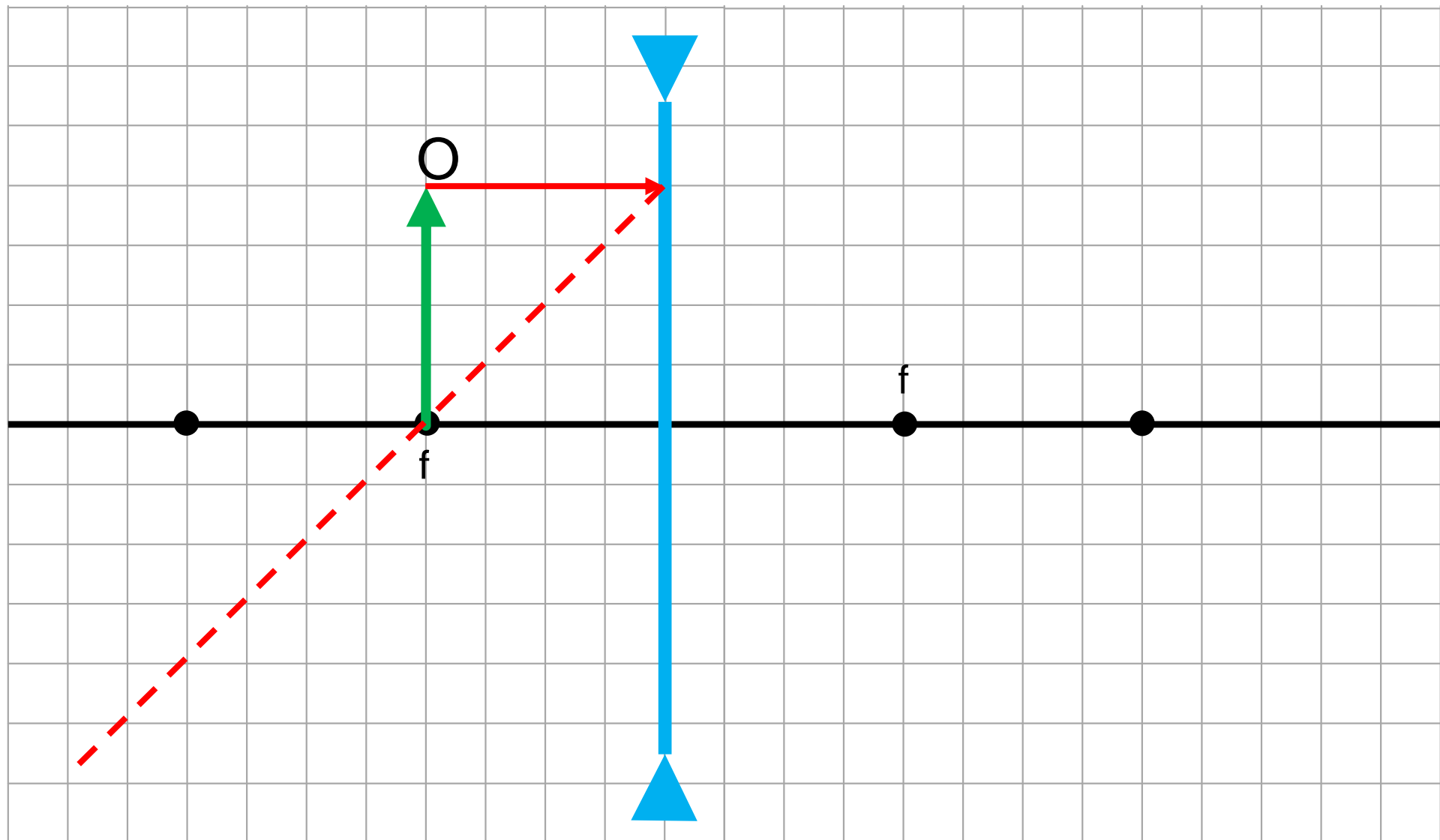


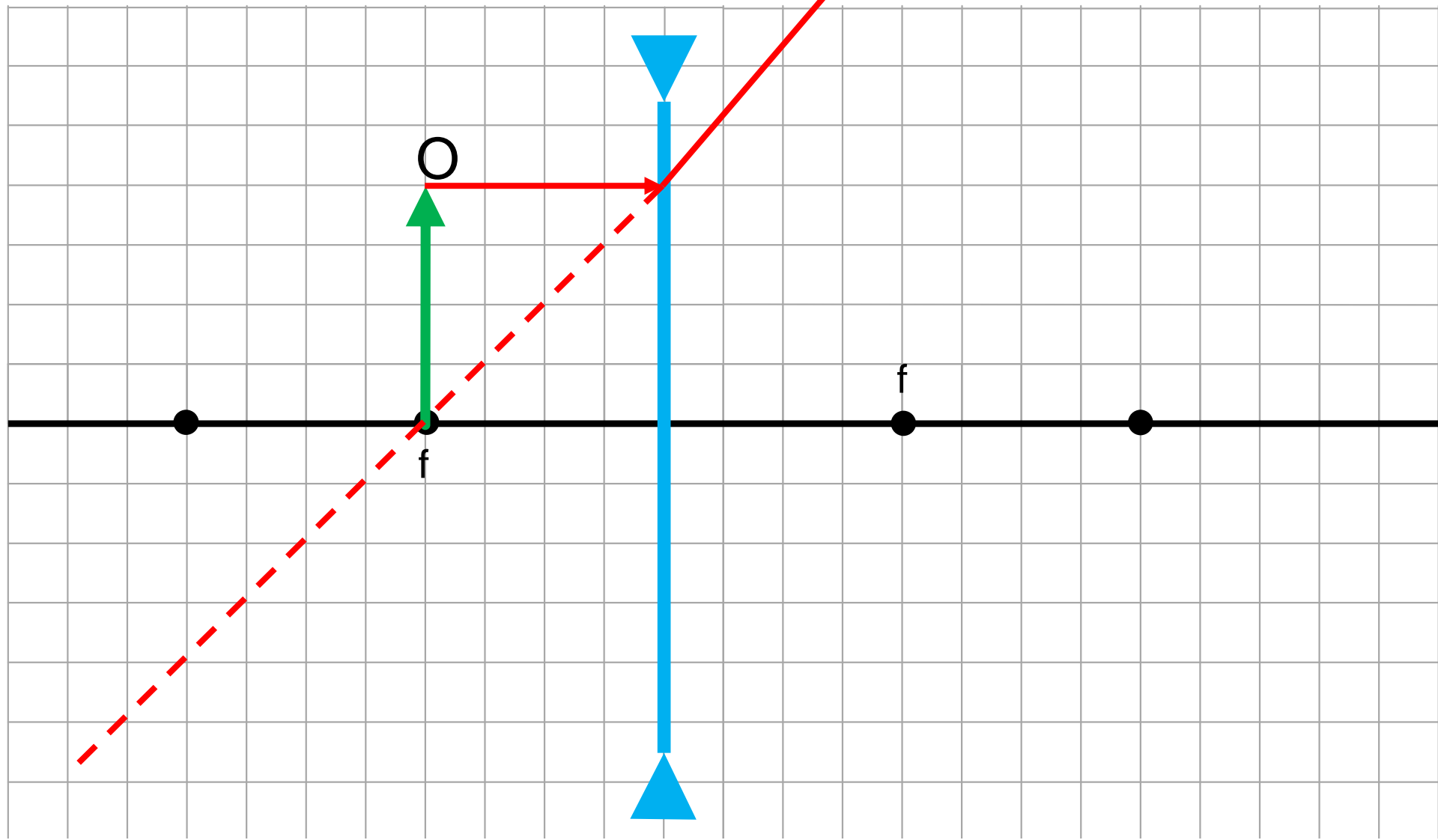


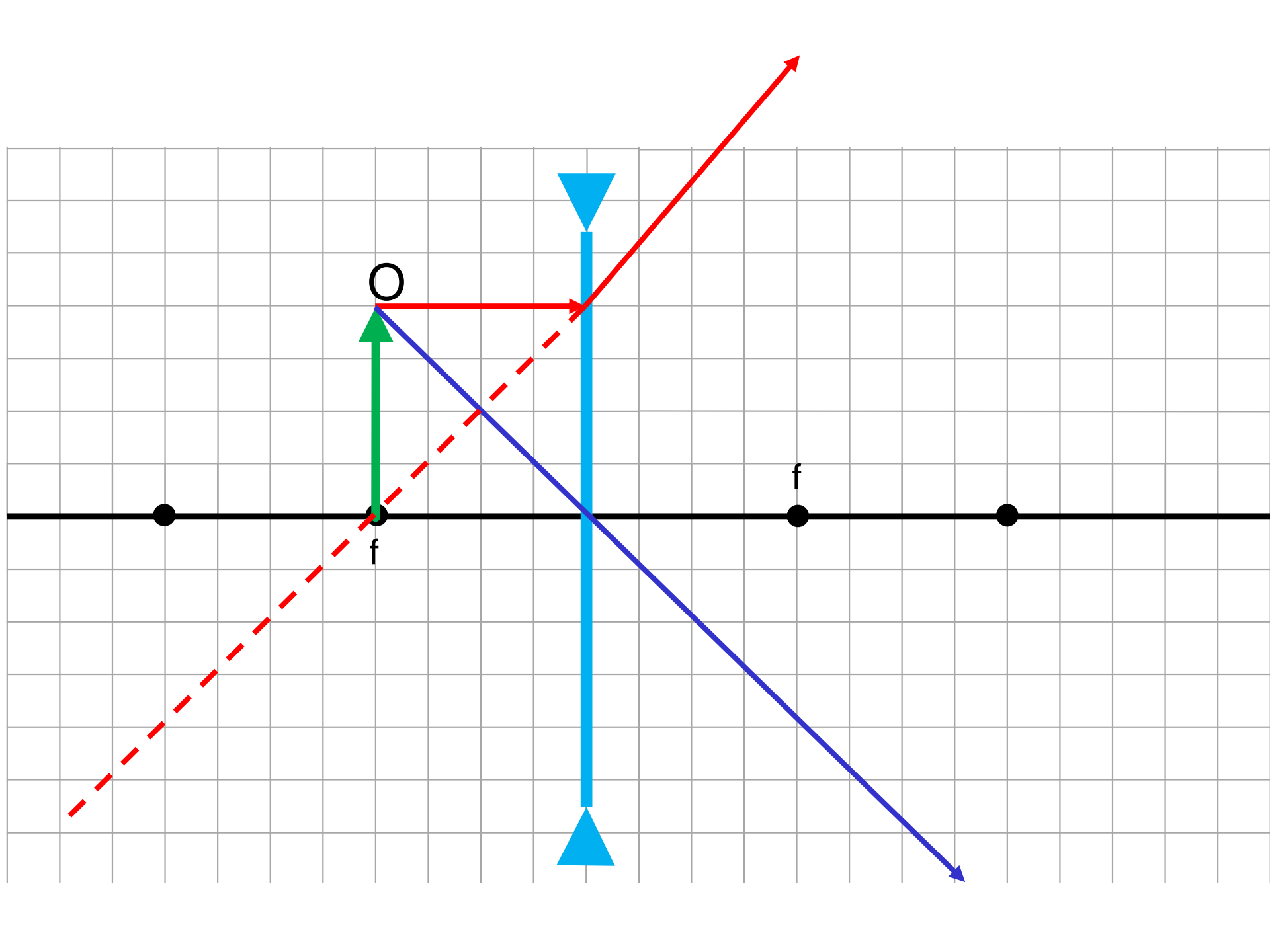
Segundo caso

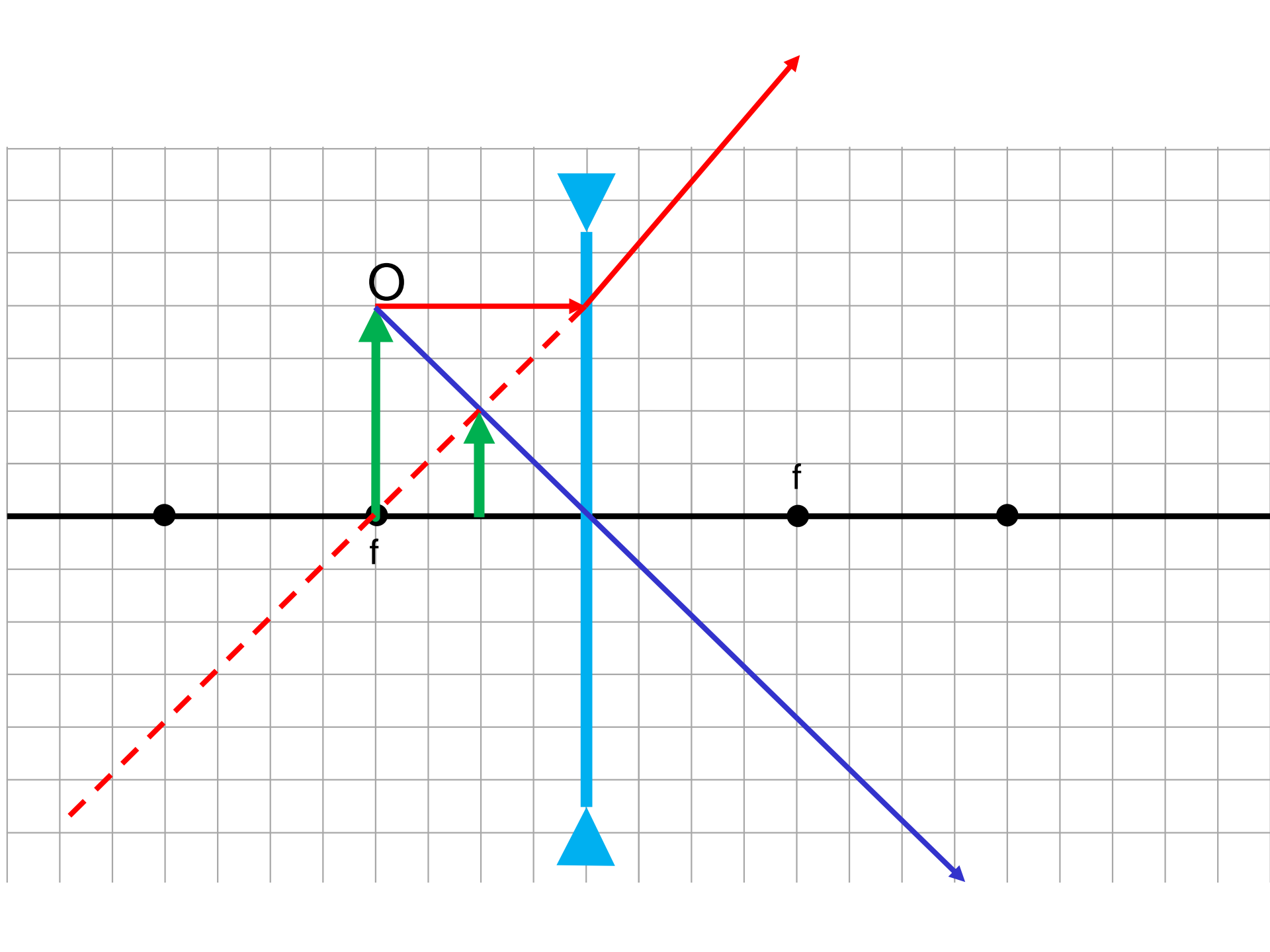








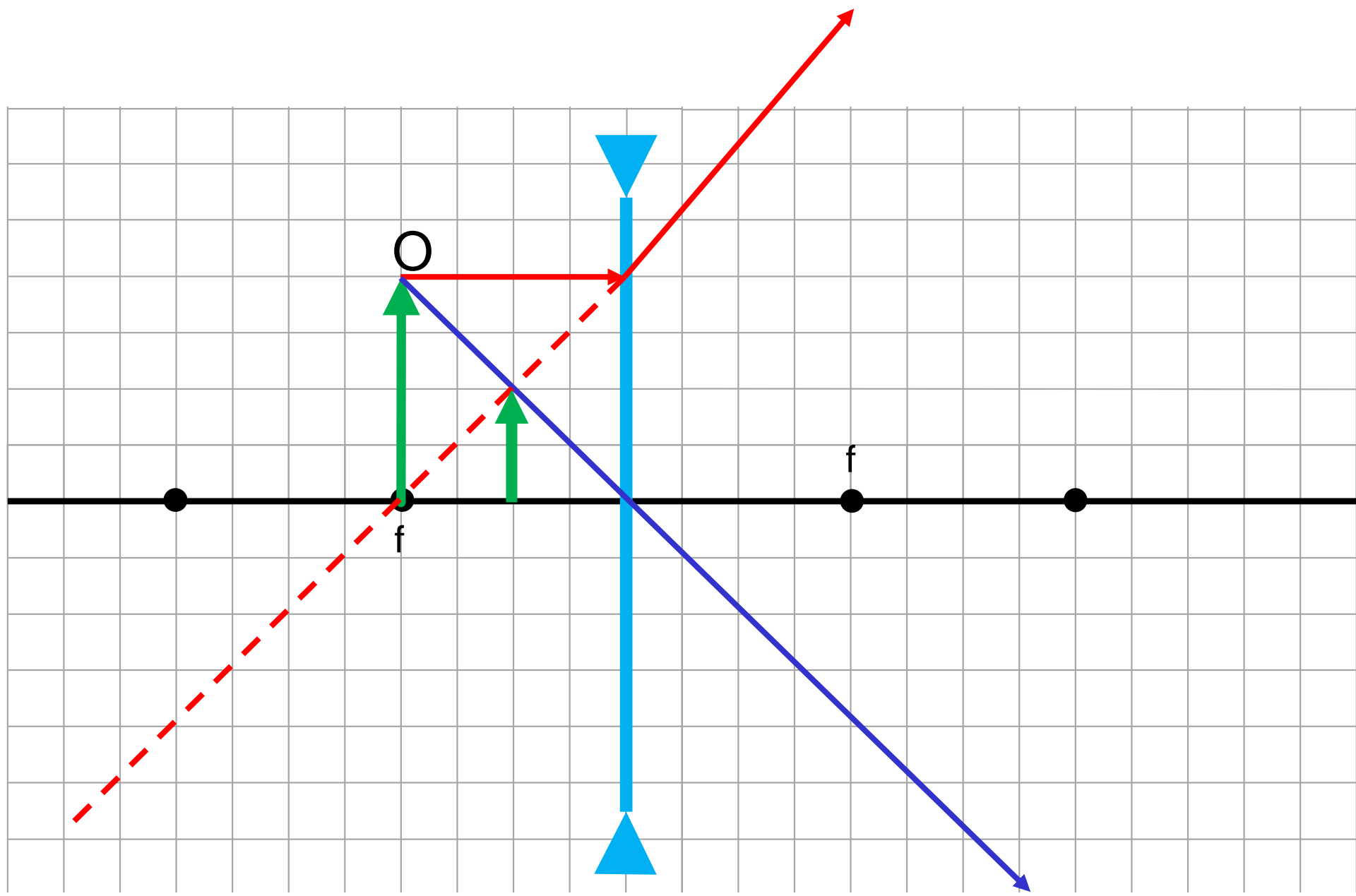




CLASSIFICAÇÃO:

Imagem

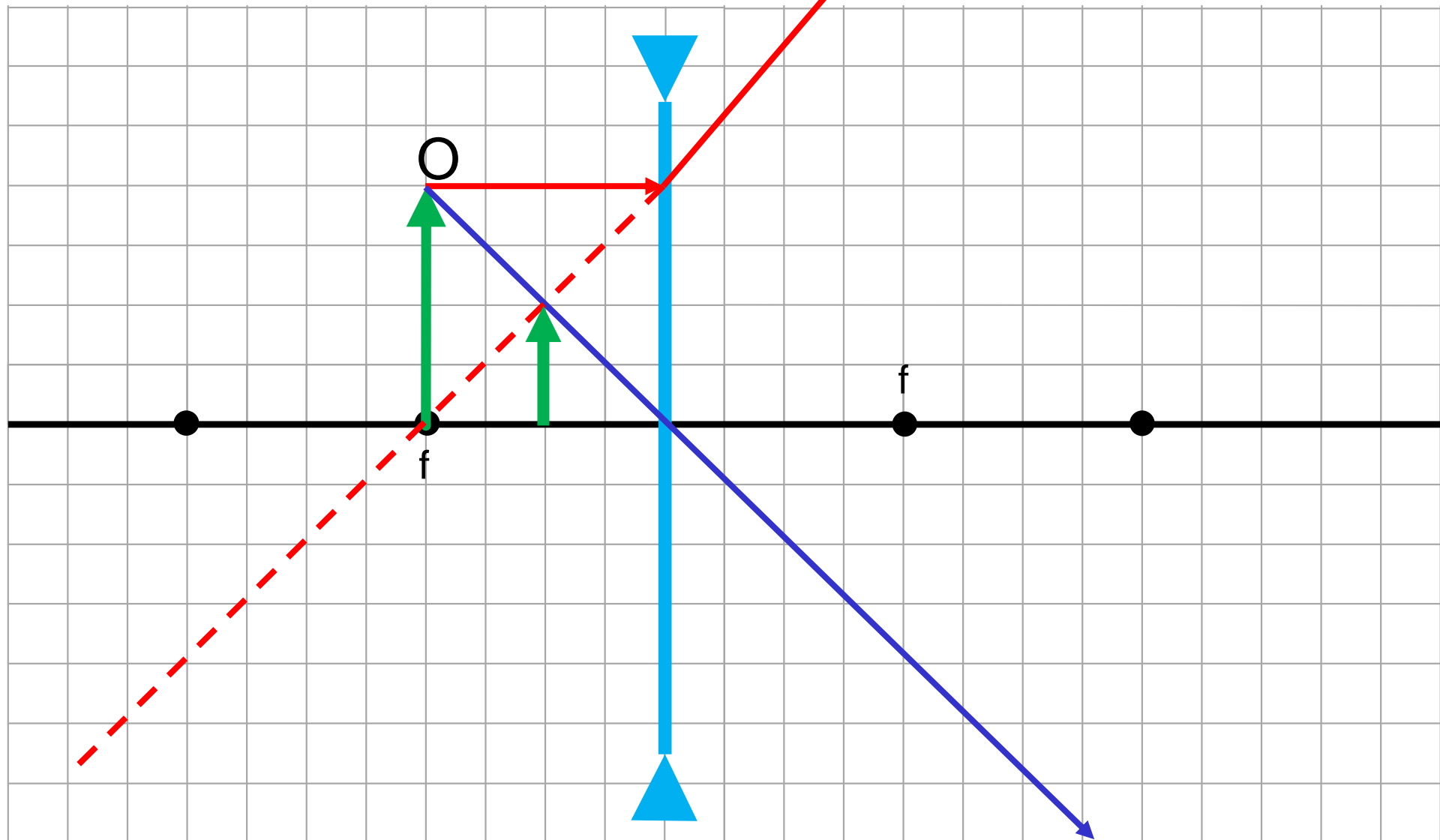
VIRTUAL



CLASSIFICAÇÃO:

Imagem

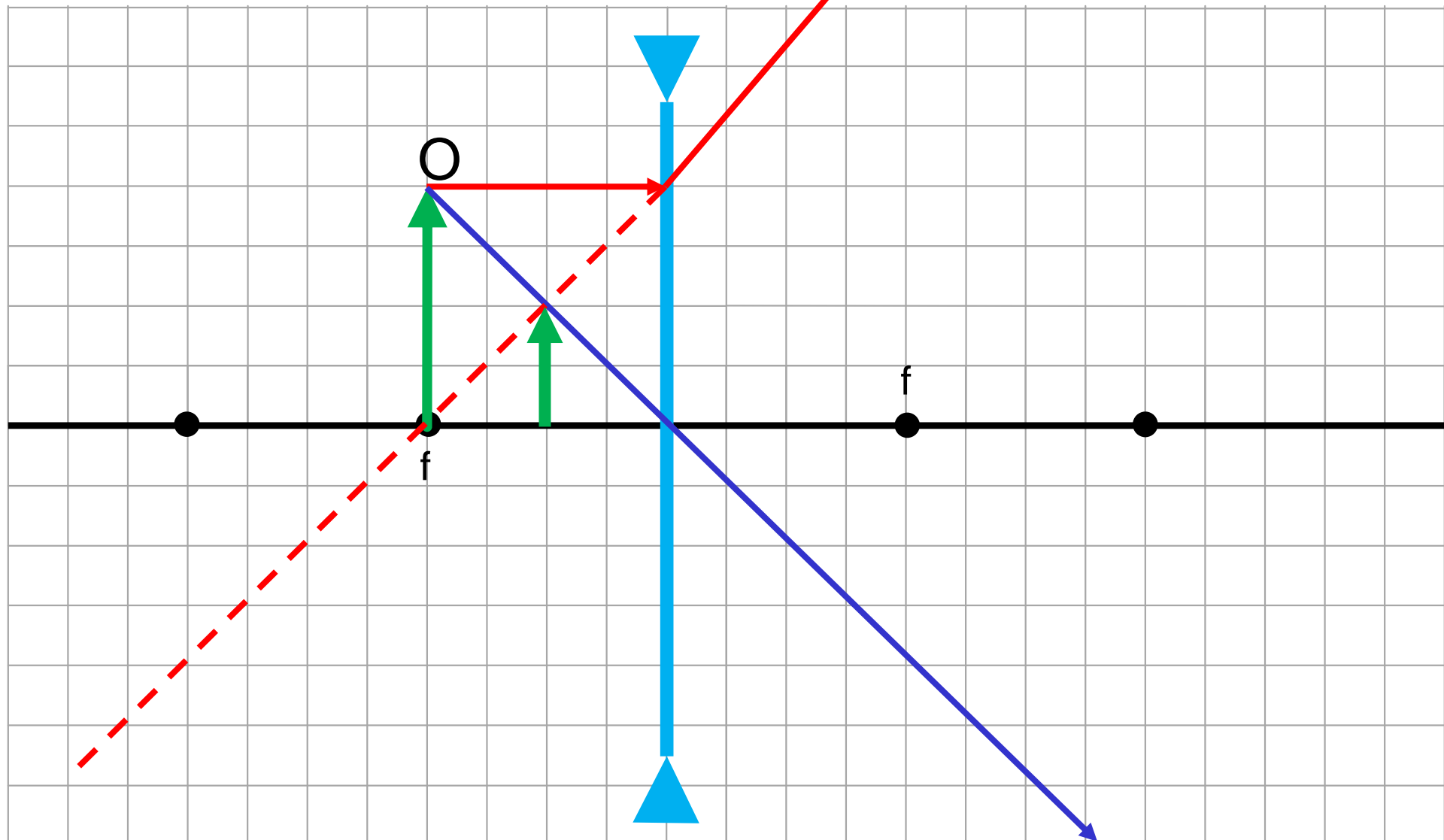
VIRTUAL
DIREITA



CLASSIFICAÇÃO:

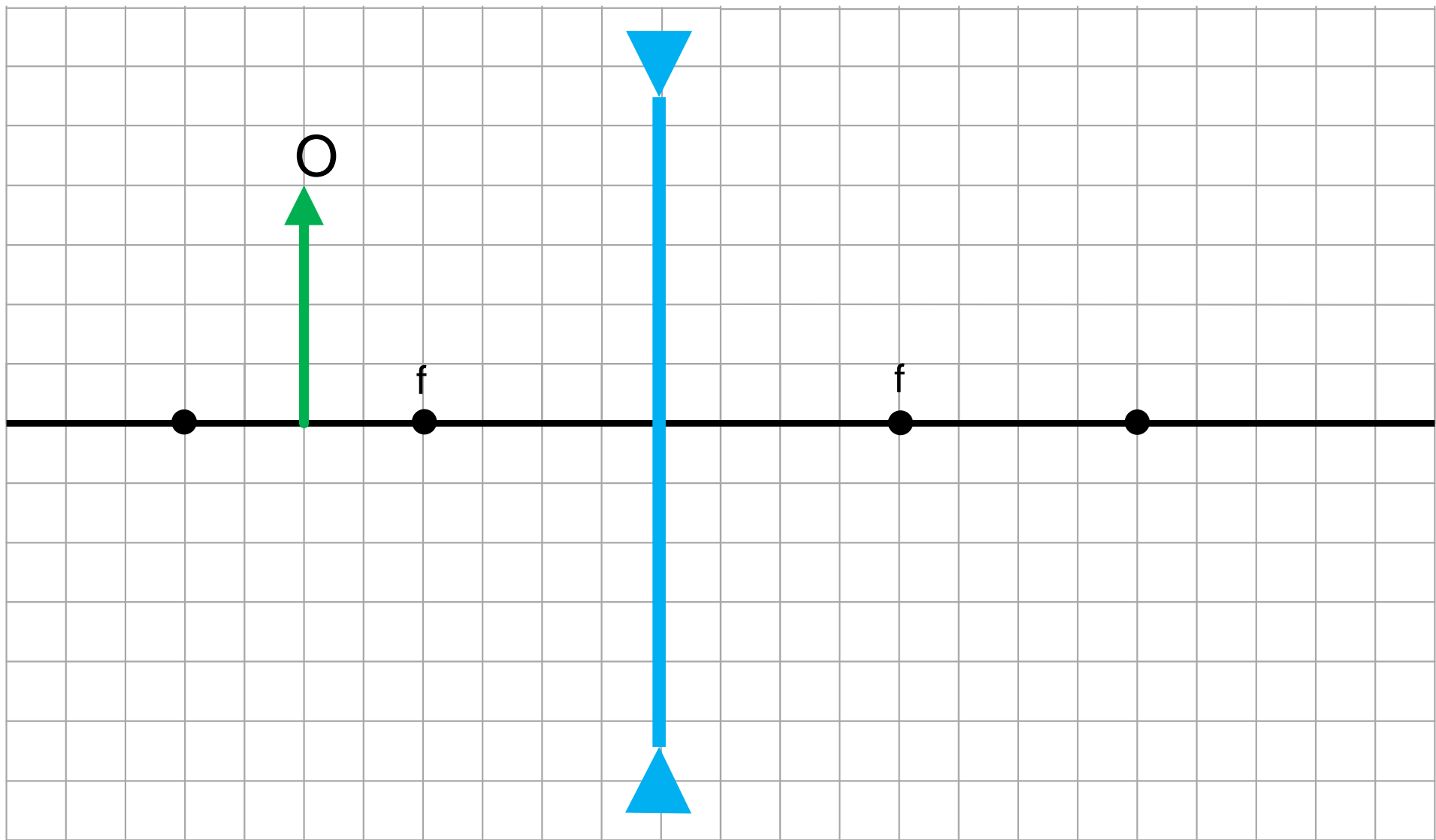
Imagem

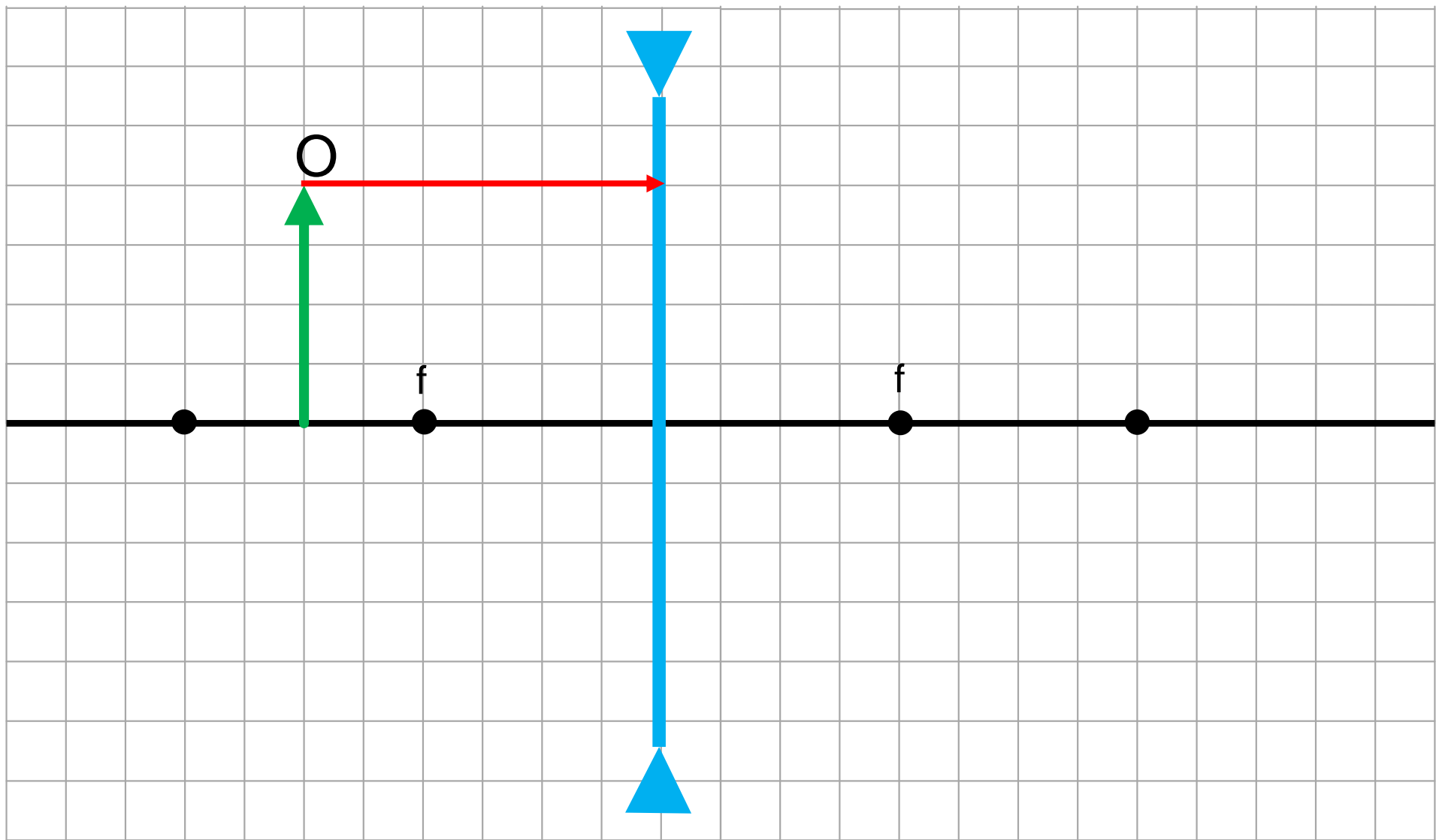
VIRTUAL
DIREITA
MENOR

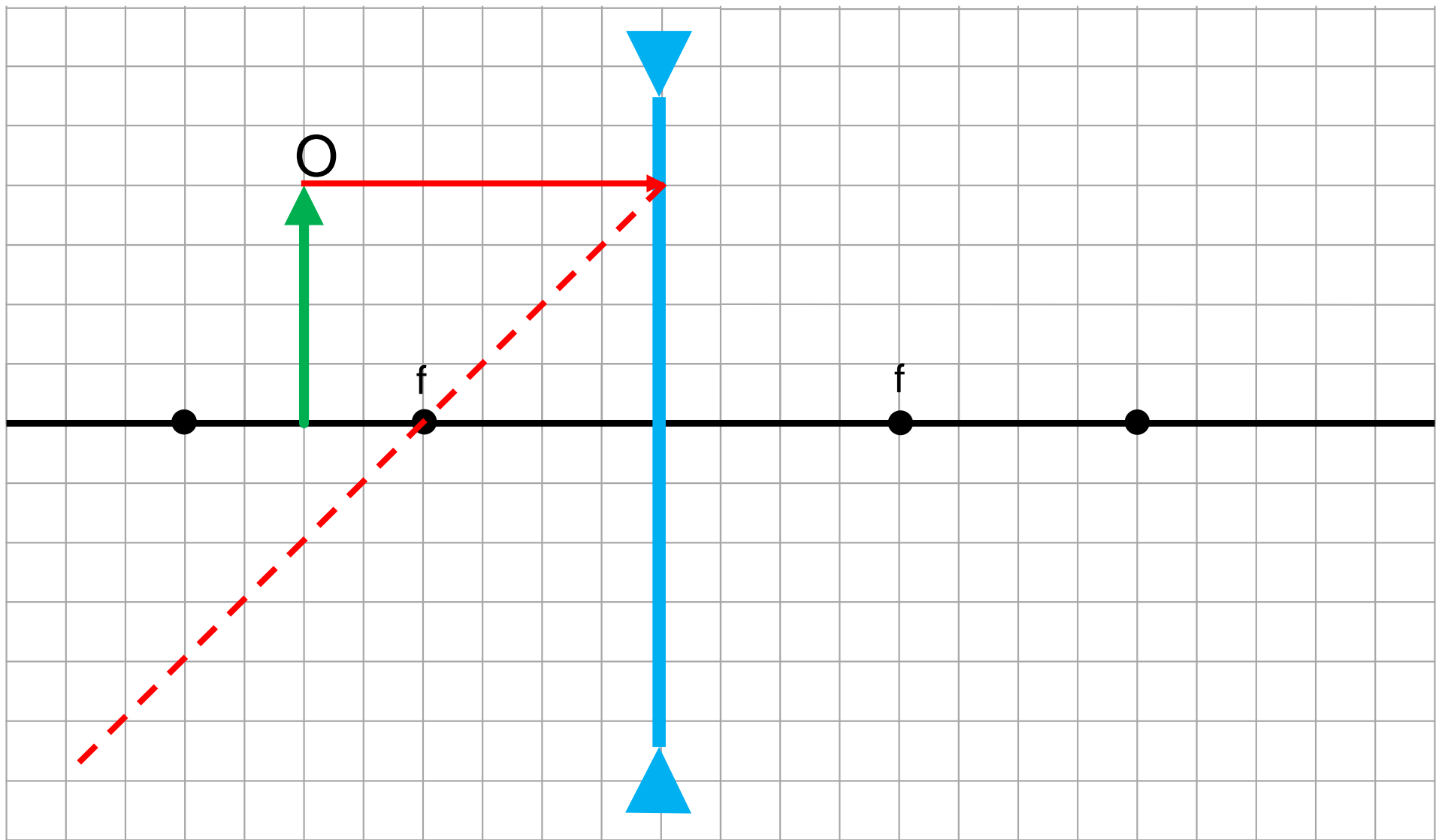


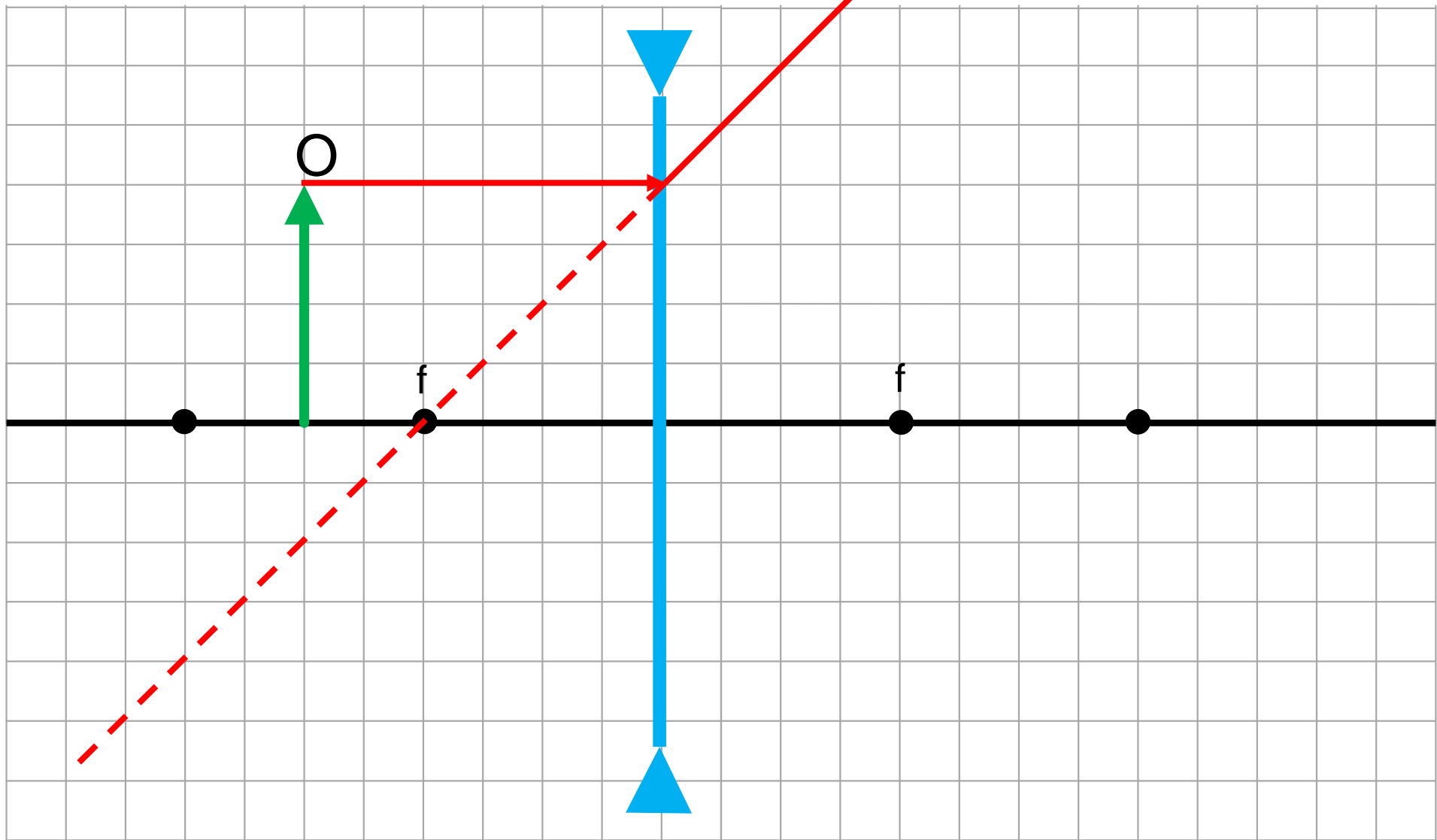


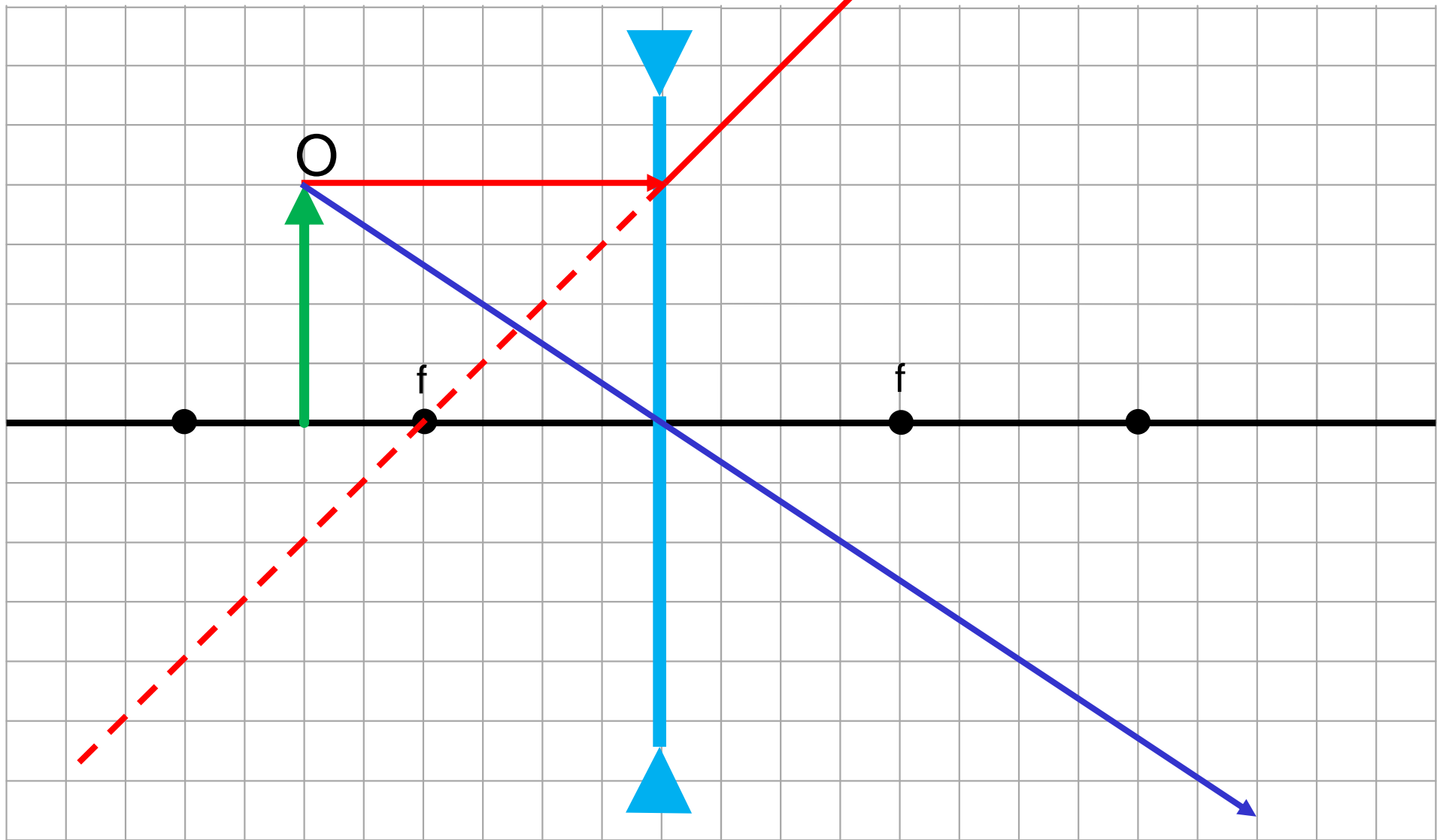
Terceiro caso

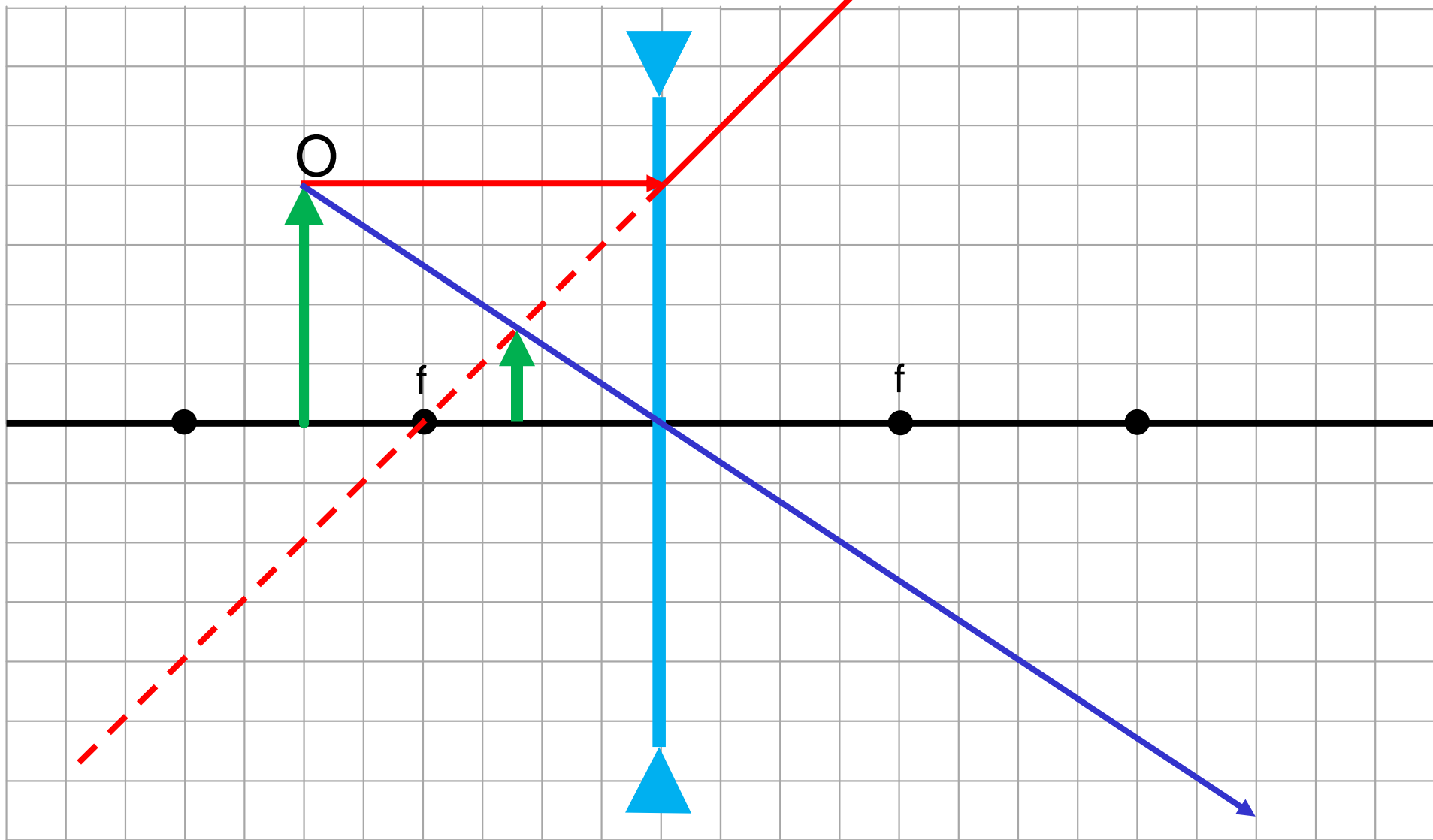








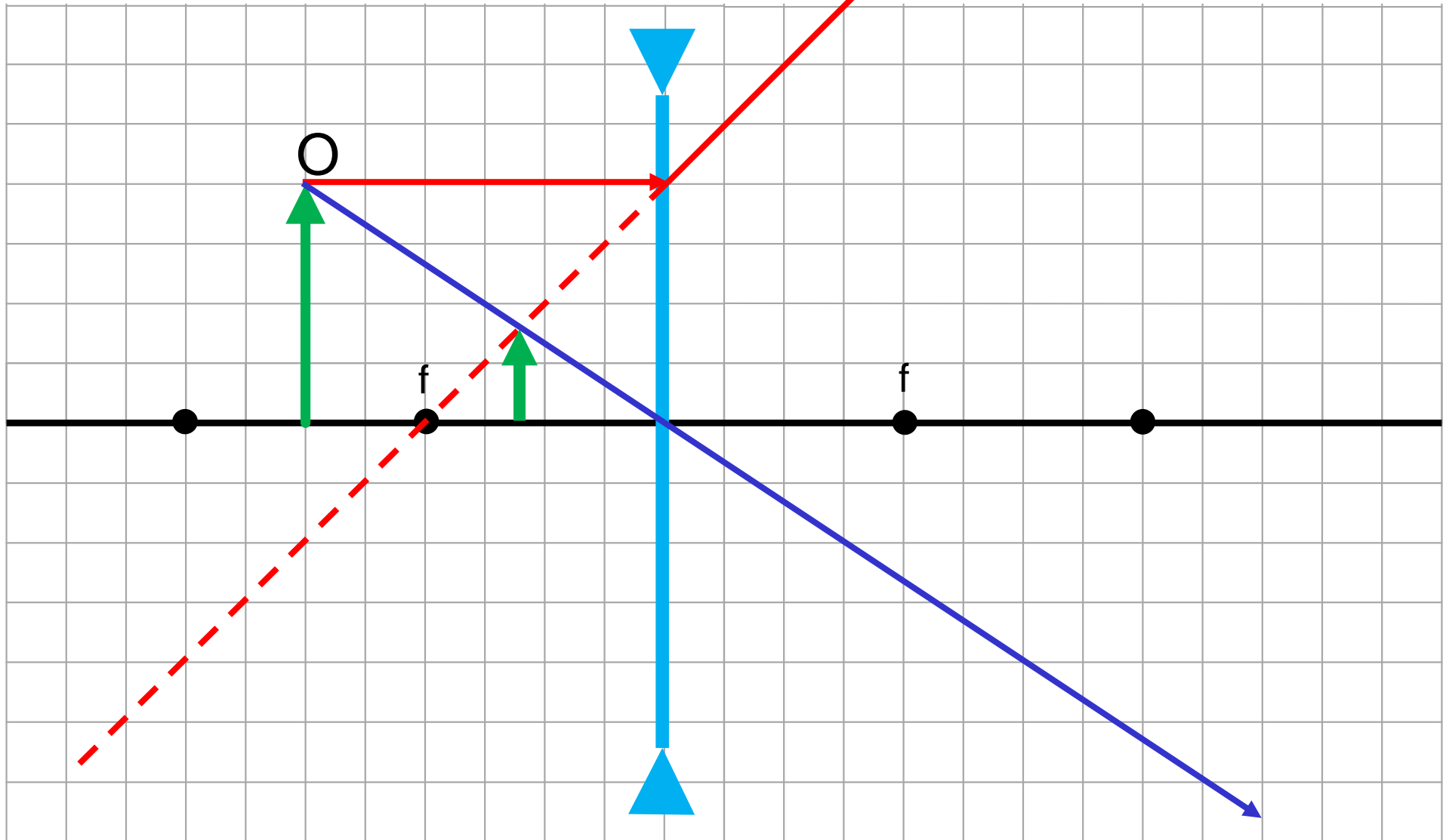




CLASSIFICAÇÃO:

Imagem

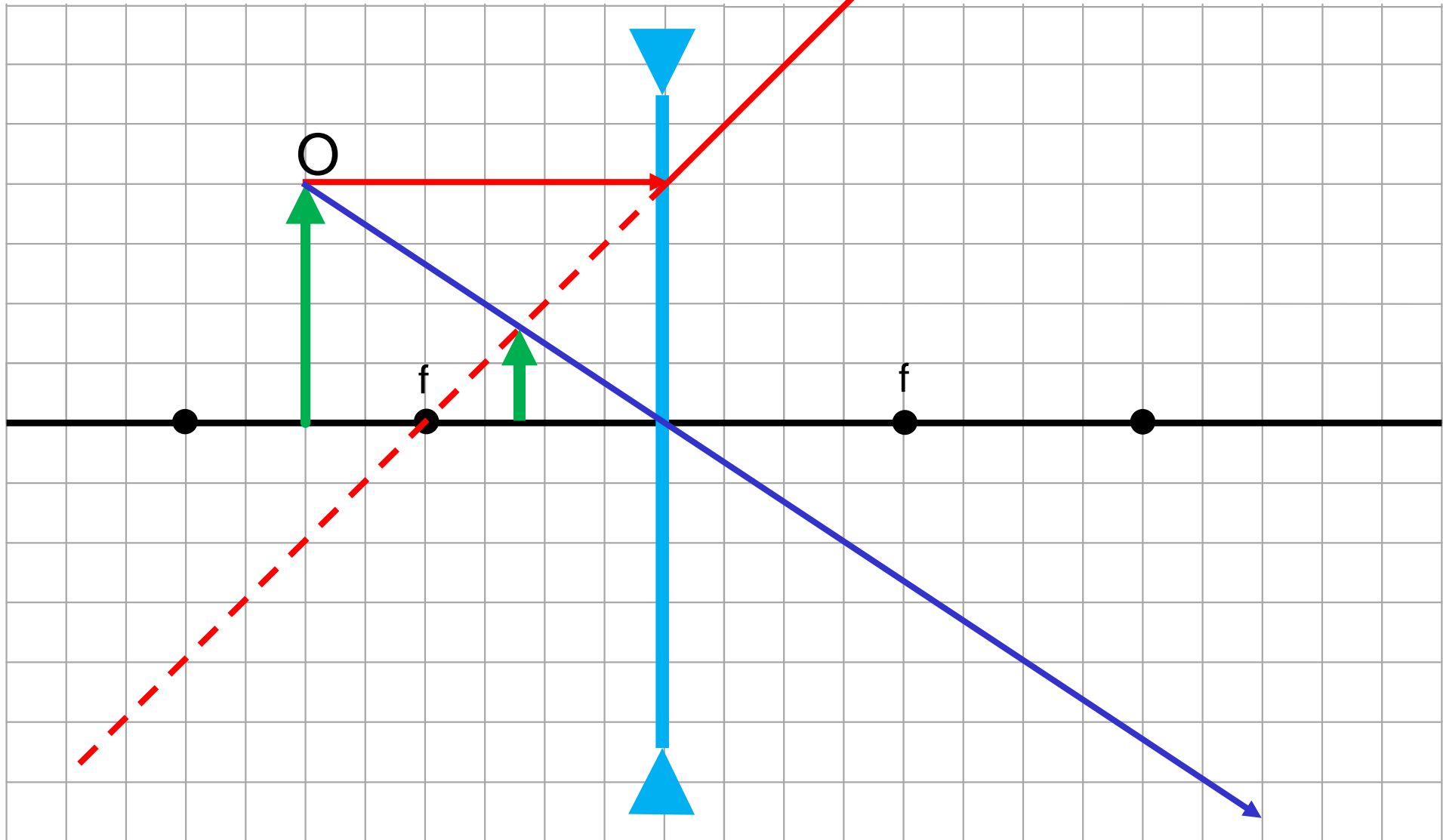
VIRTUAL



CLASSIFICAÇÃO:

Imagem

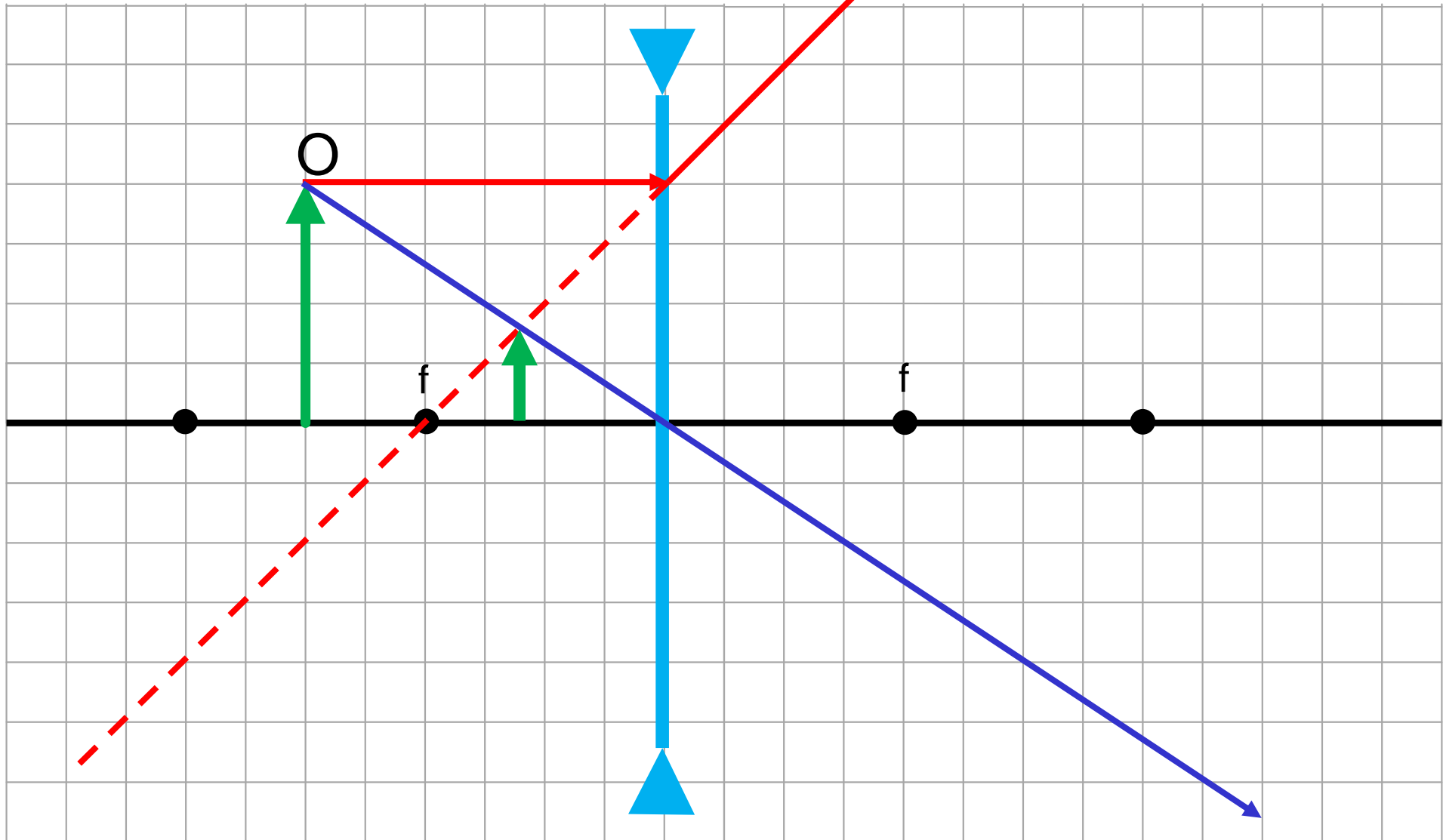
VIRTUAL
DIREITA



CLASSIFICAÇÃO:

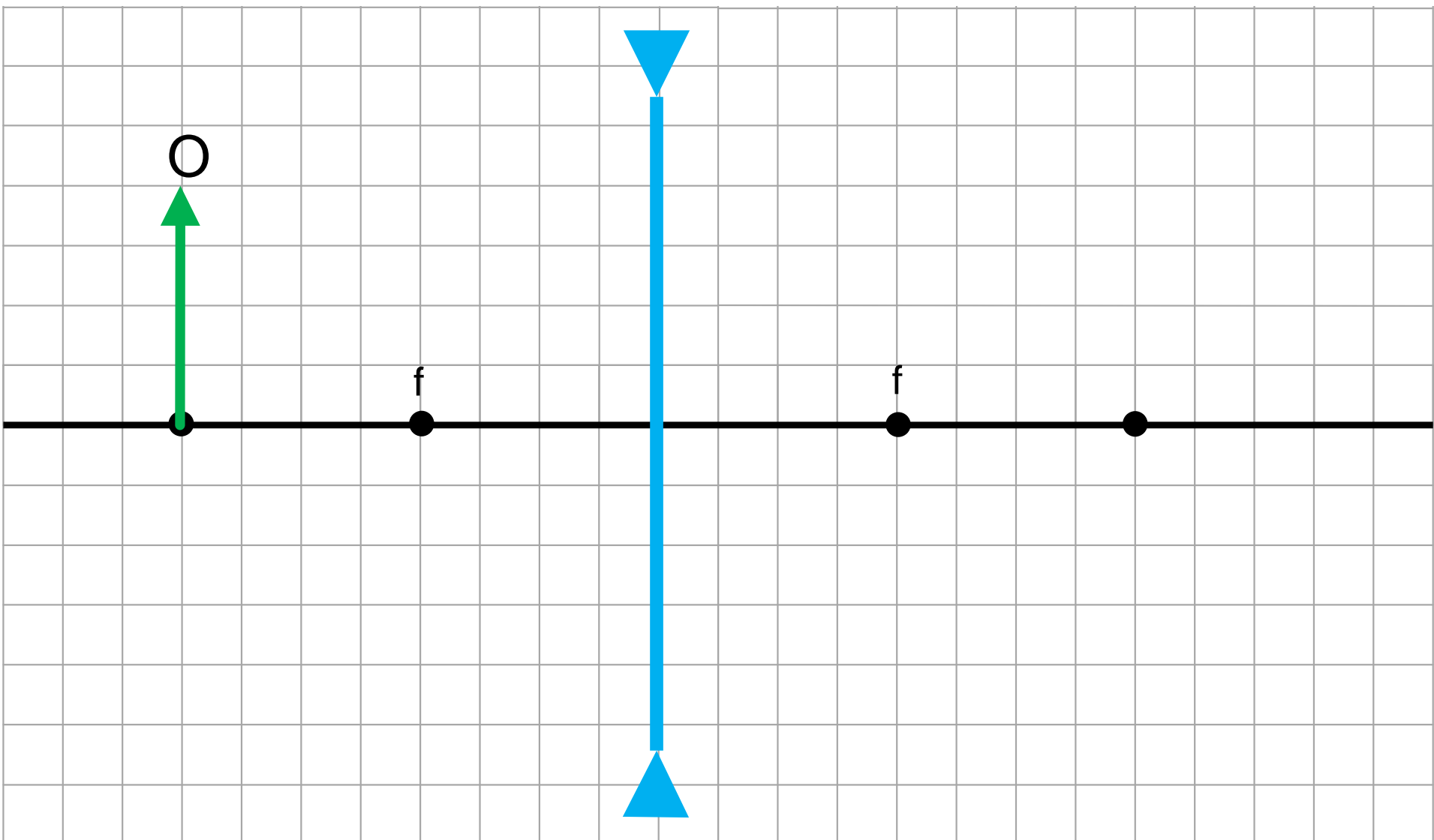
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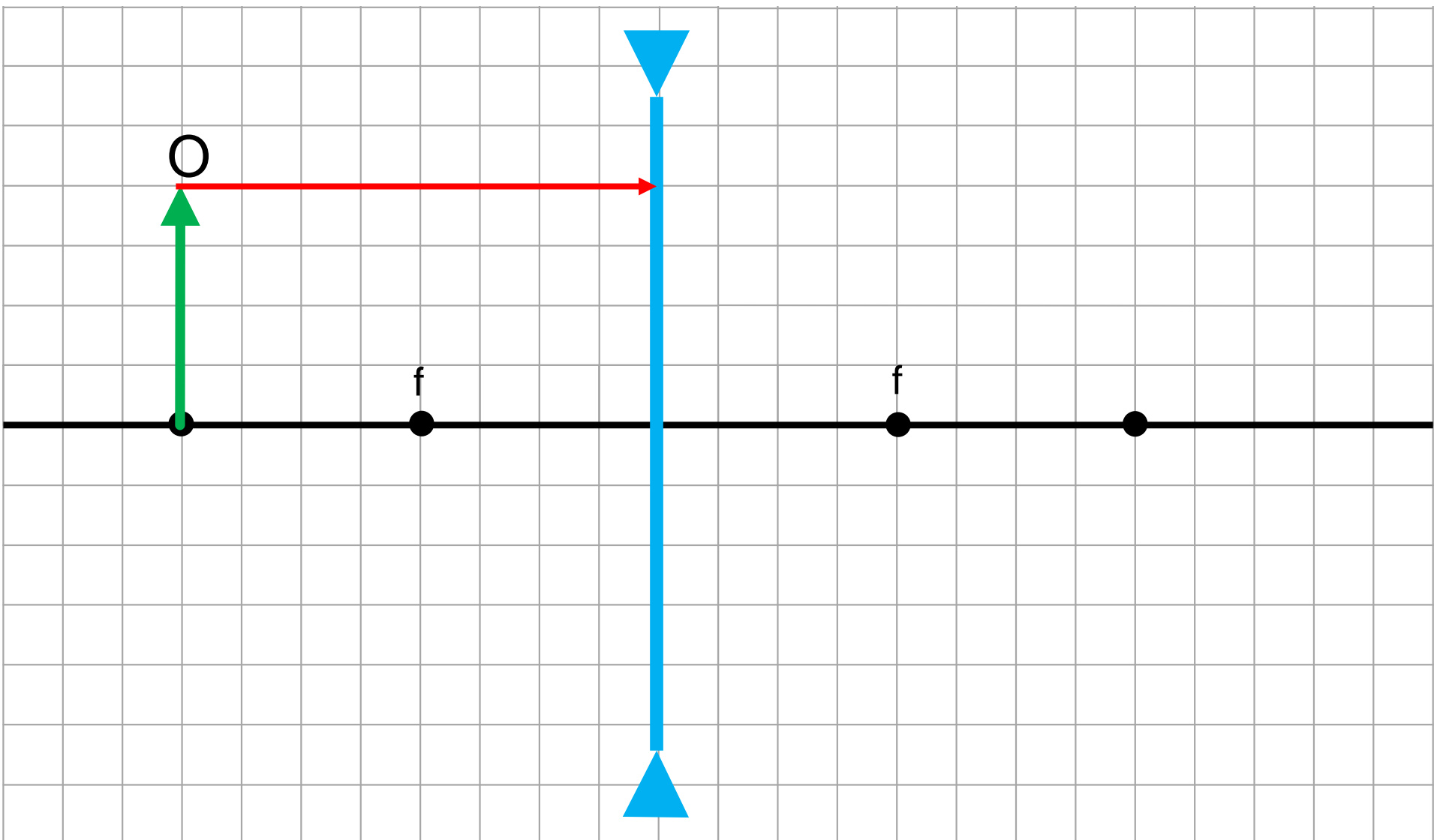
VIRTUAL
DIREITA
MENOR

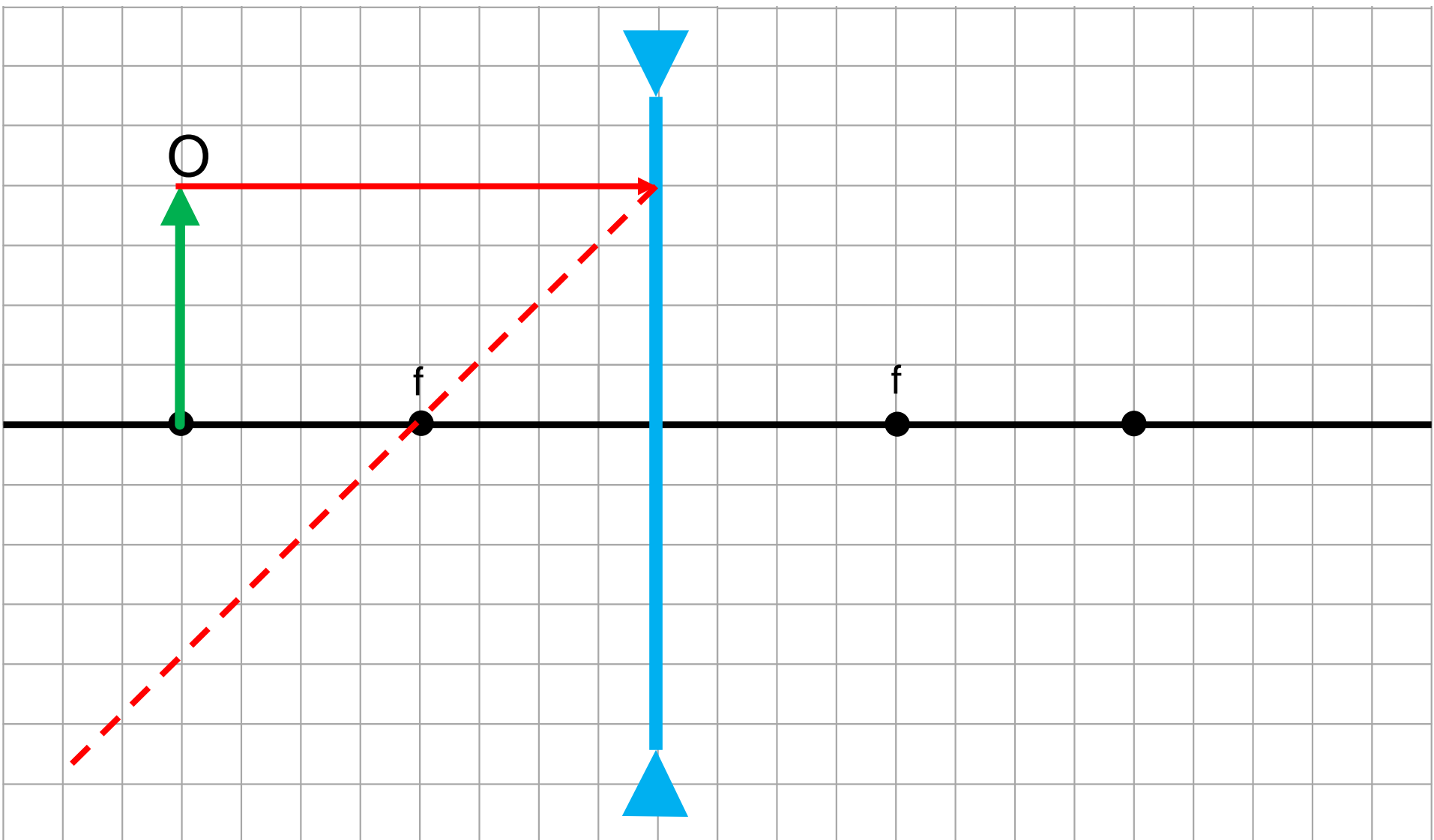


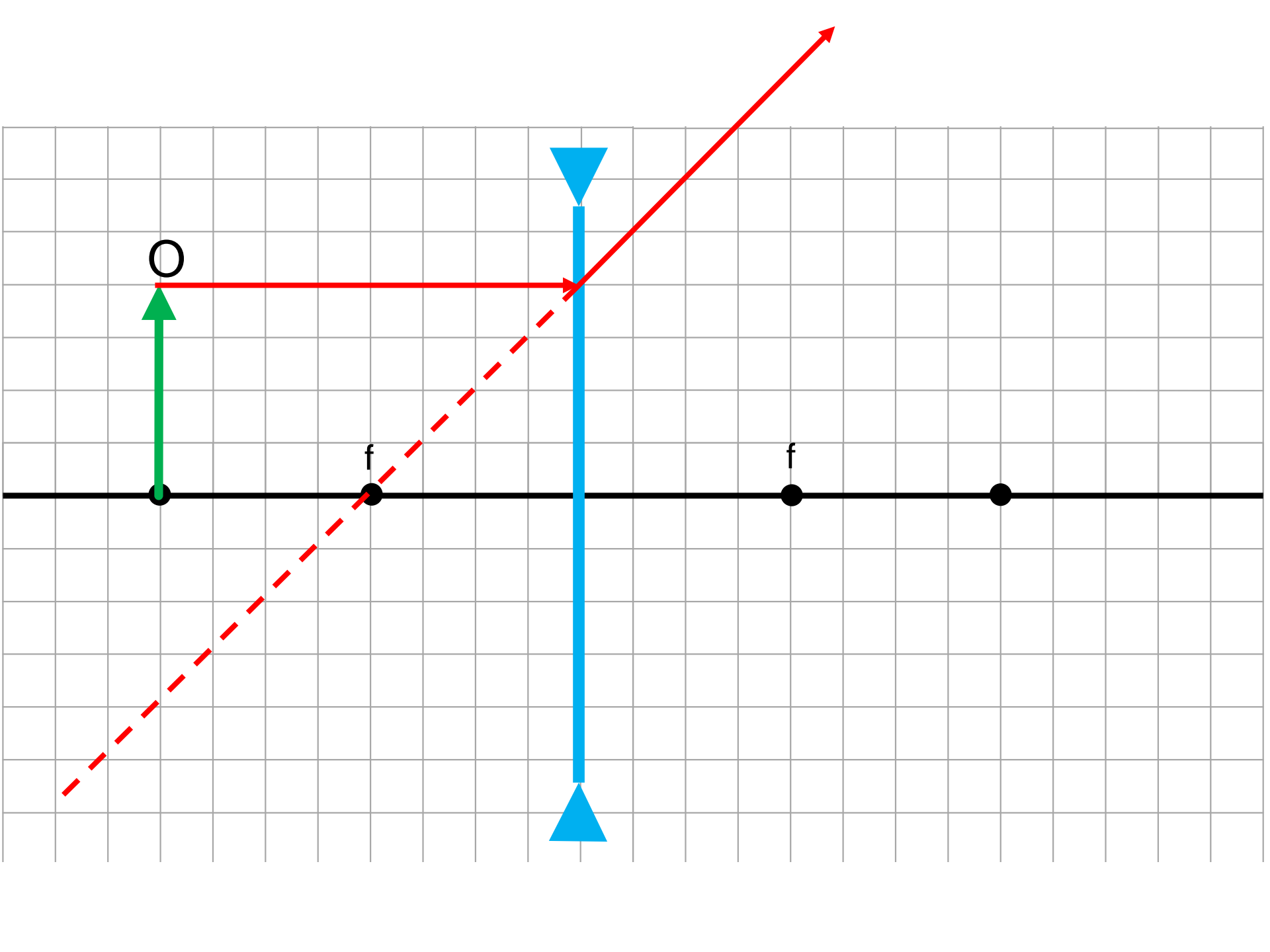


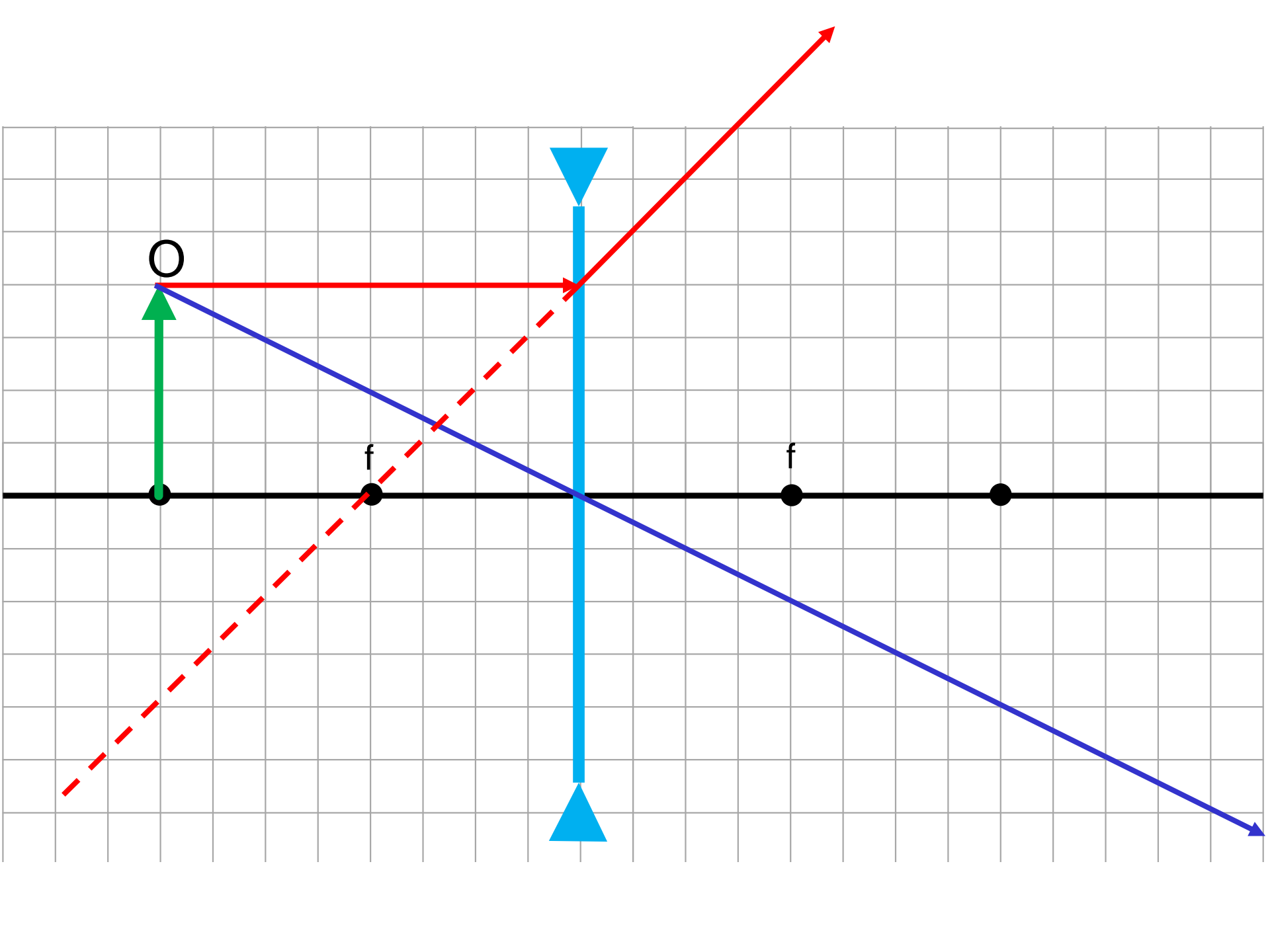
Quarto caso

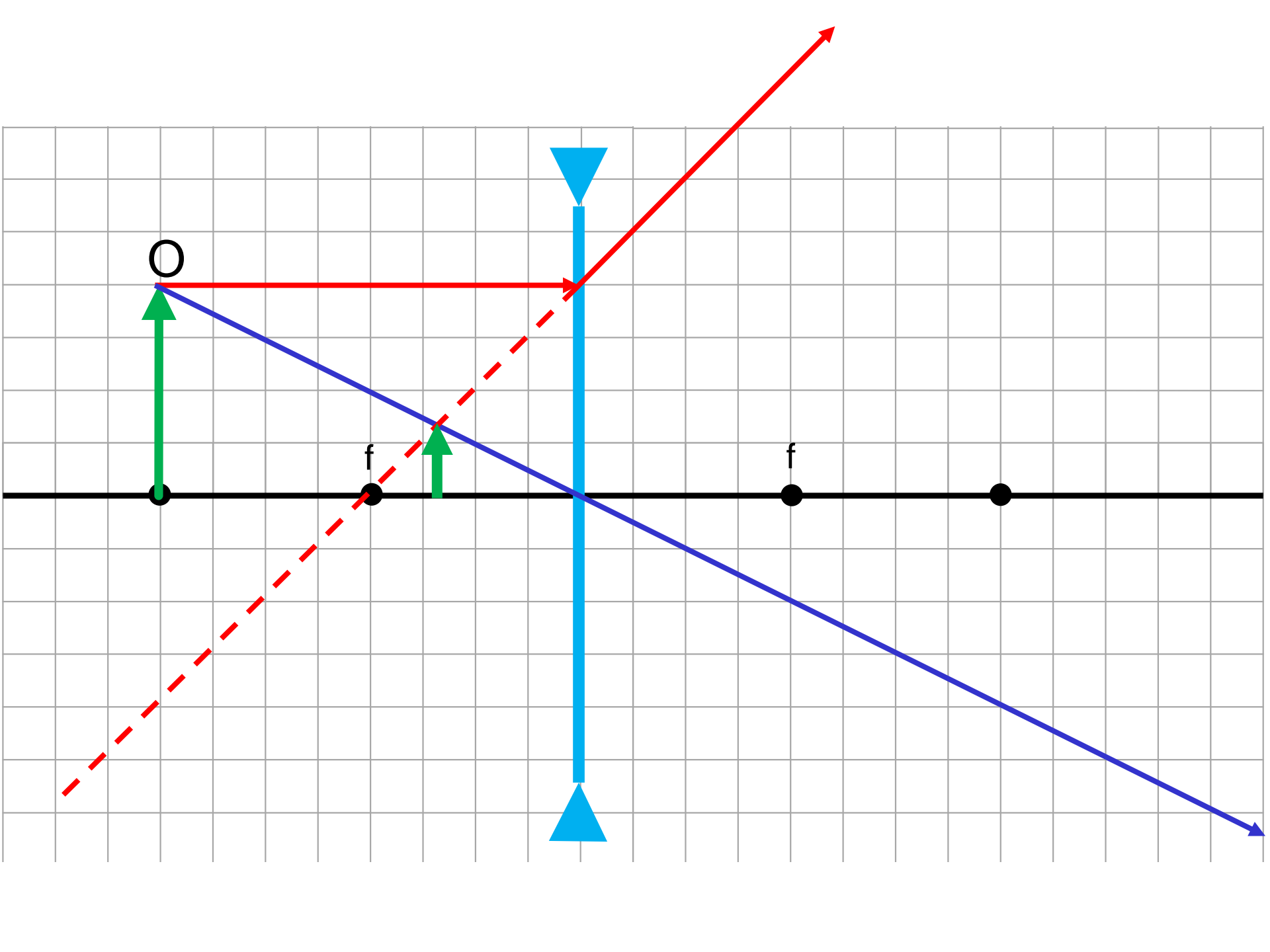








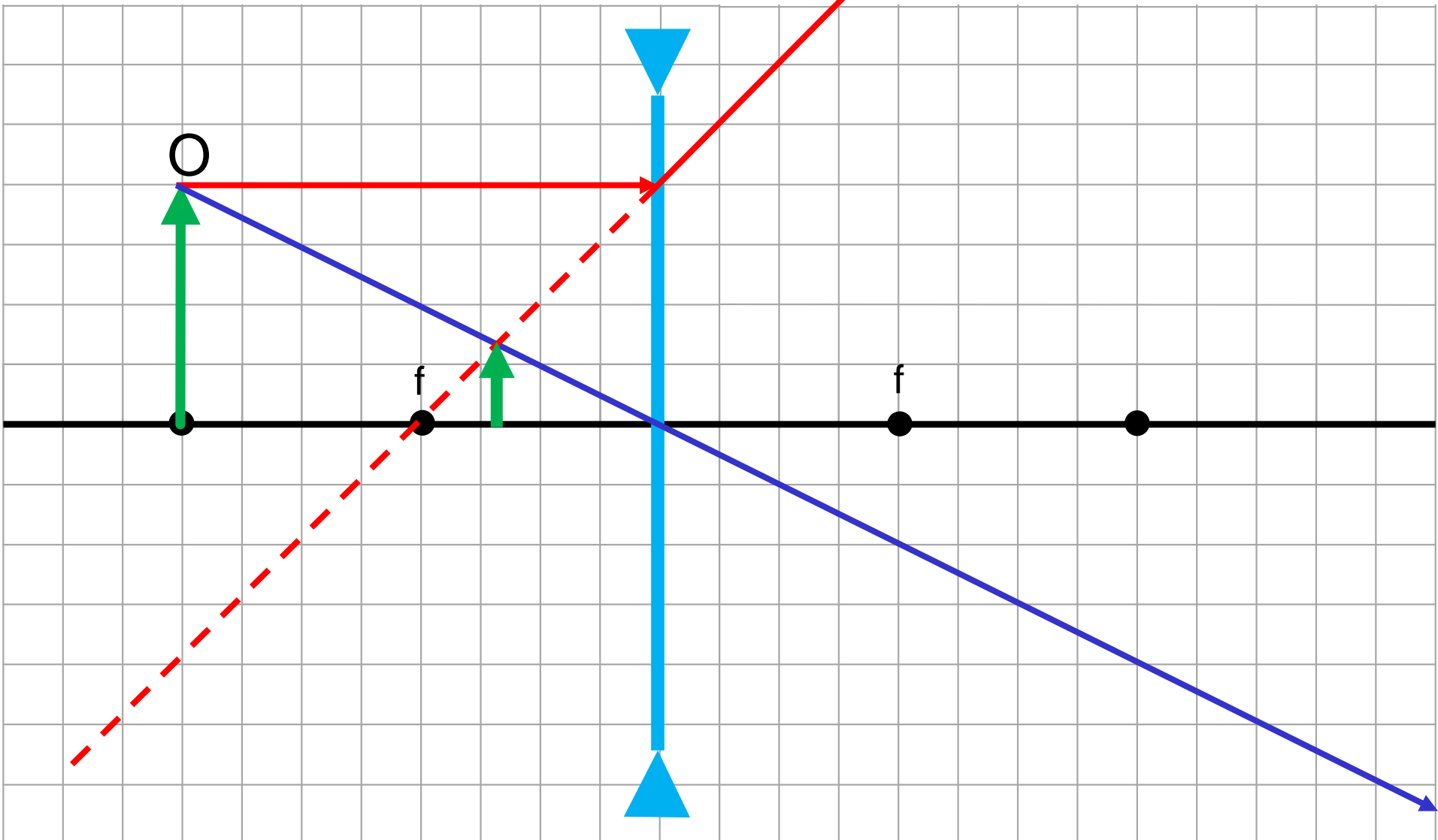




CLASSIFICAÇÃO:

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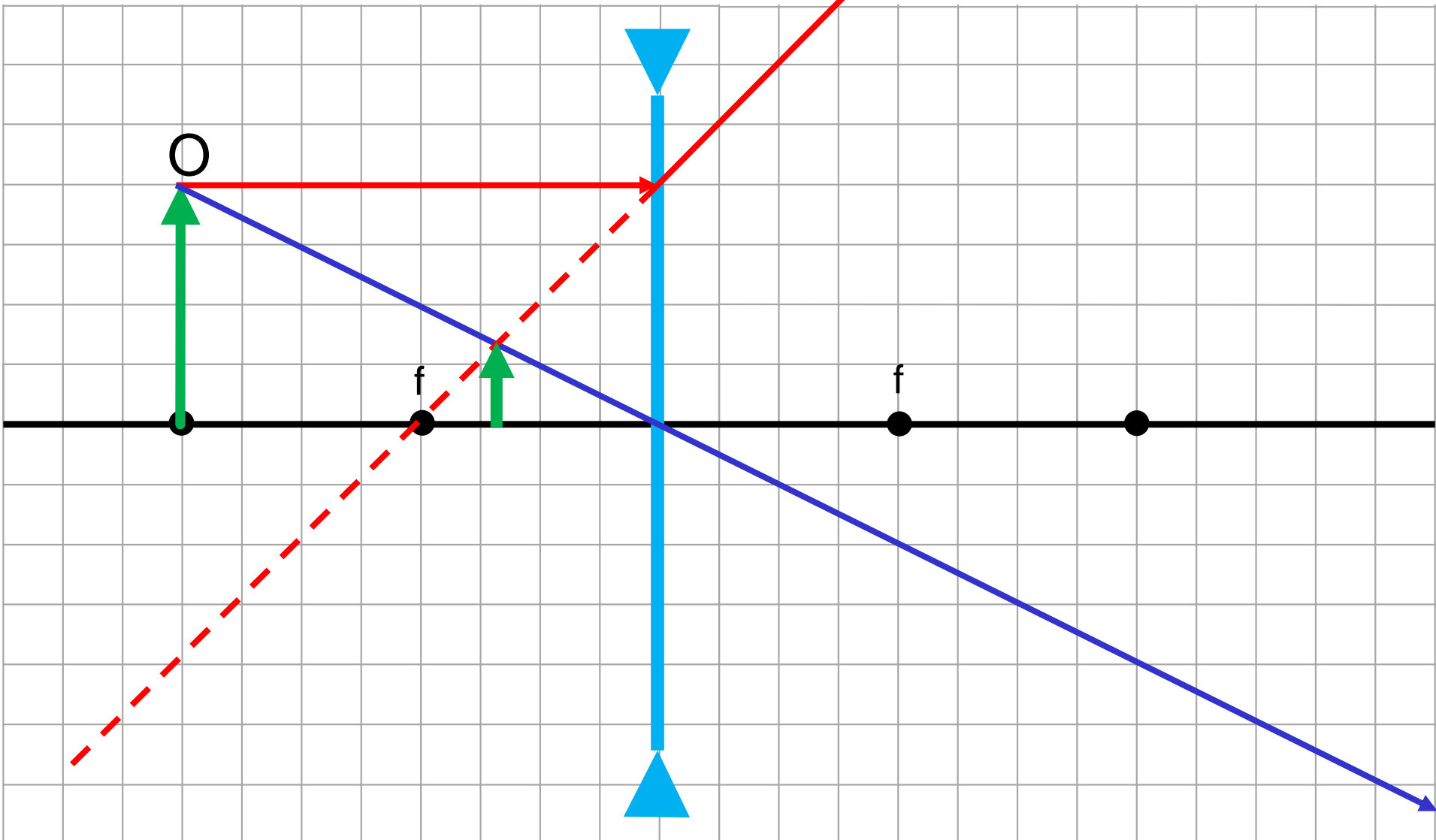
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CLASSIFICAÇÃO:

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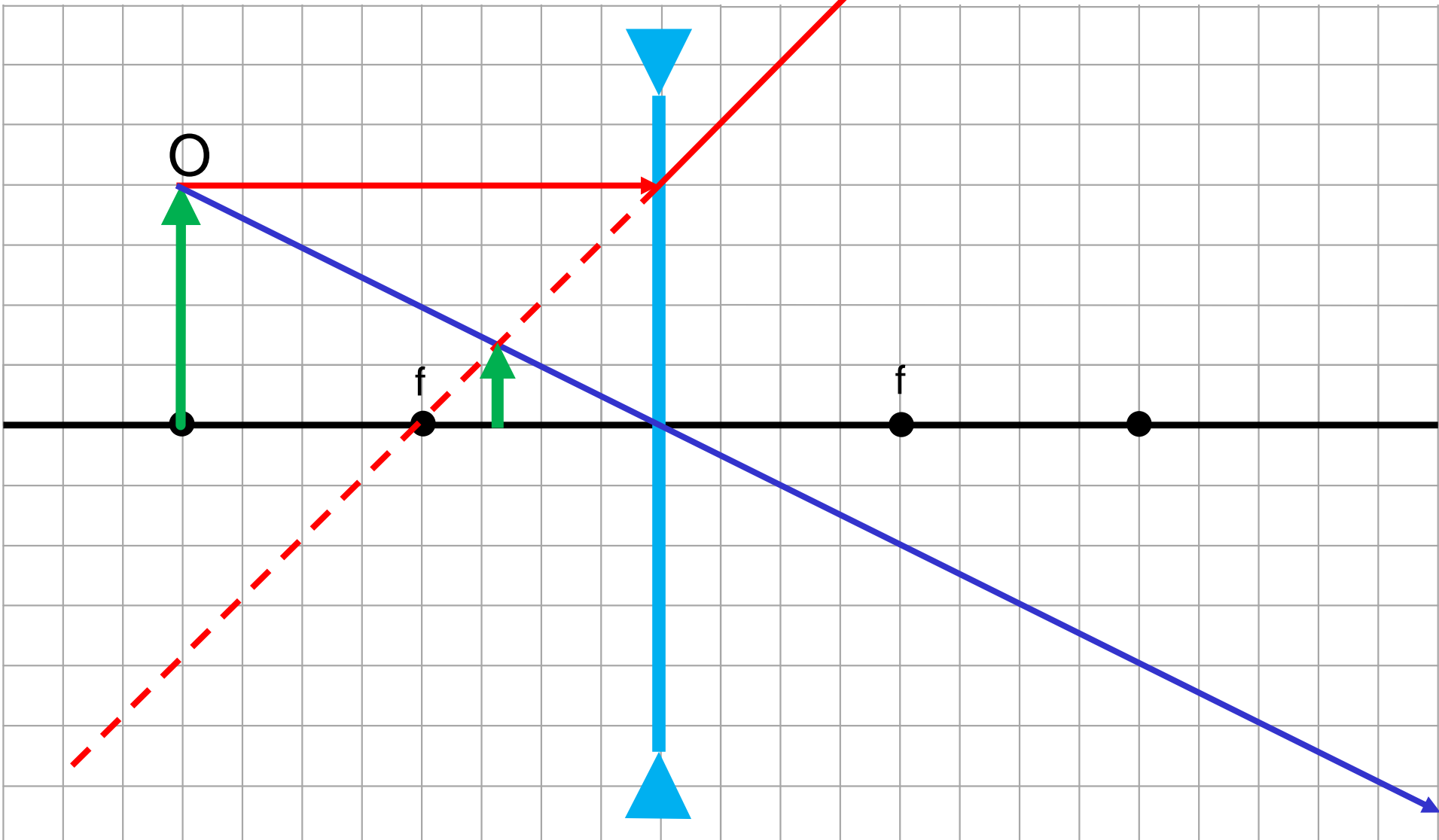
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DIREITA



CLASSIFICAÇÃO:

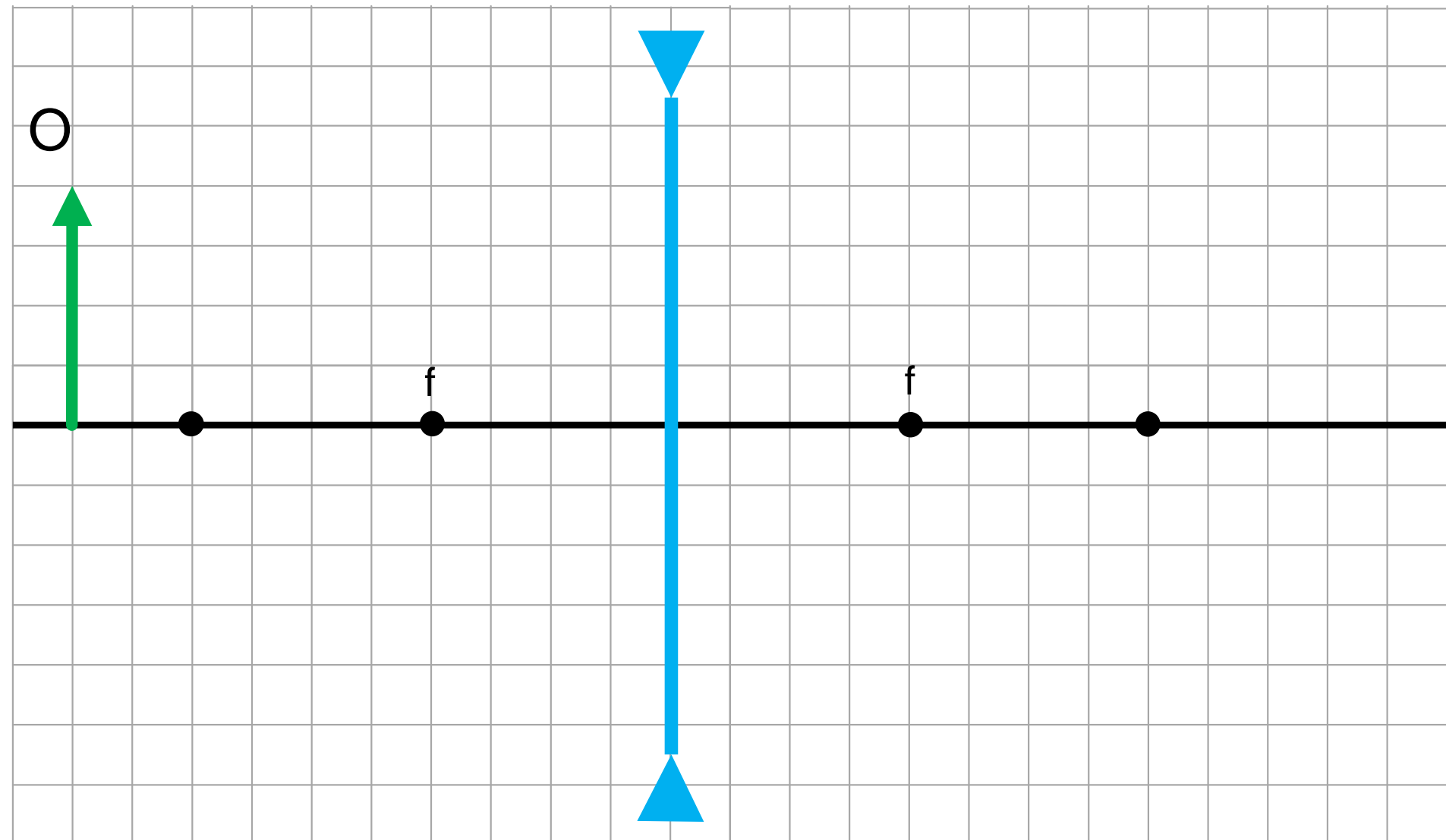
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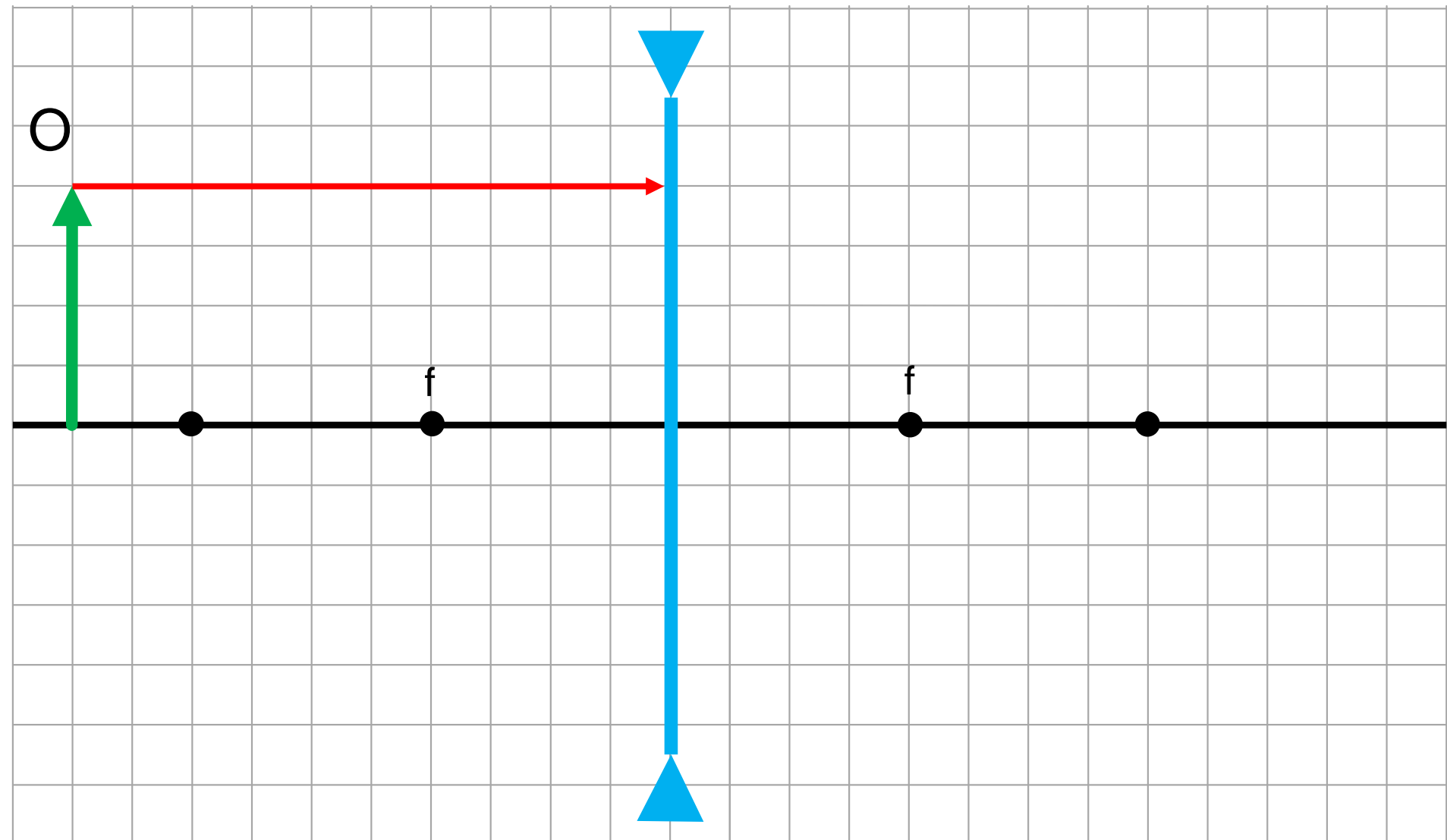
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DIREITA
MENOR

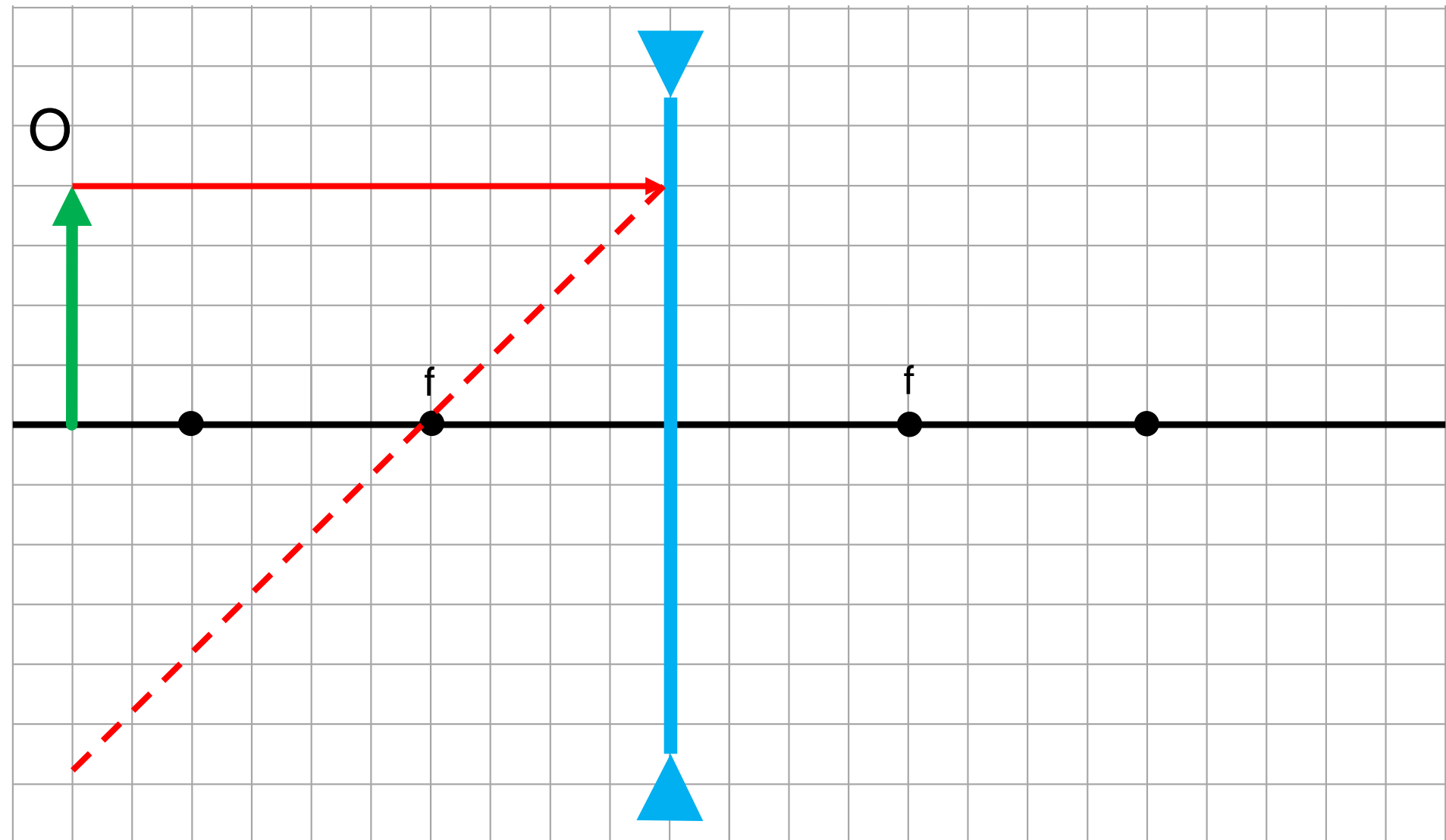


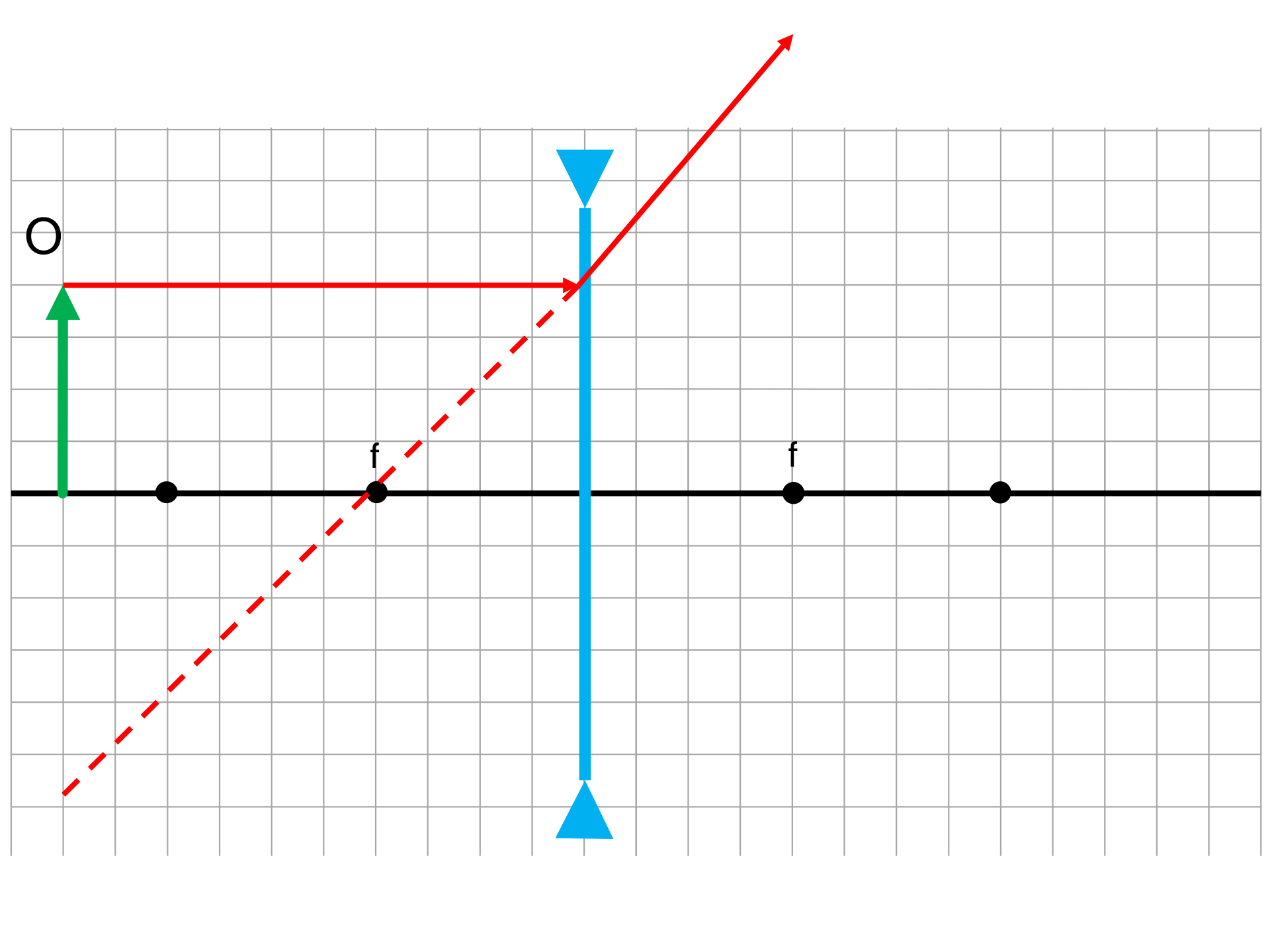


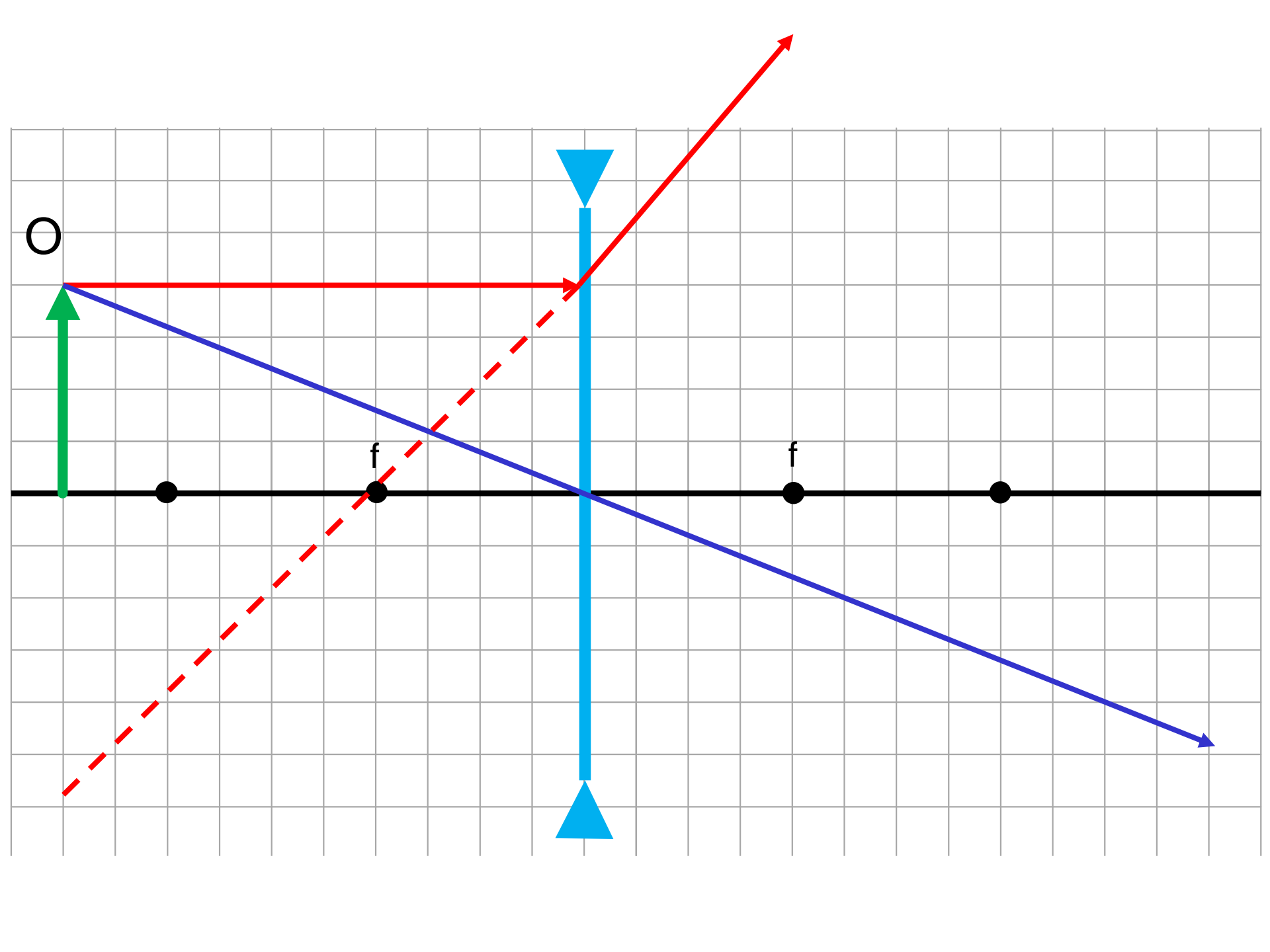
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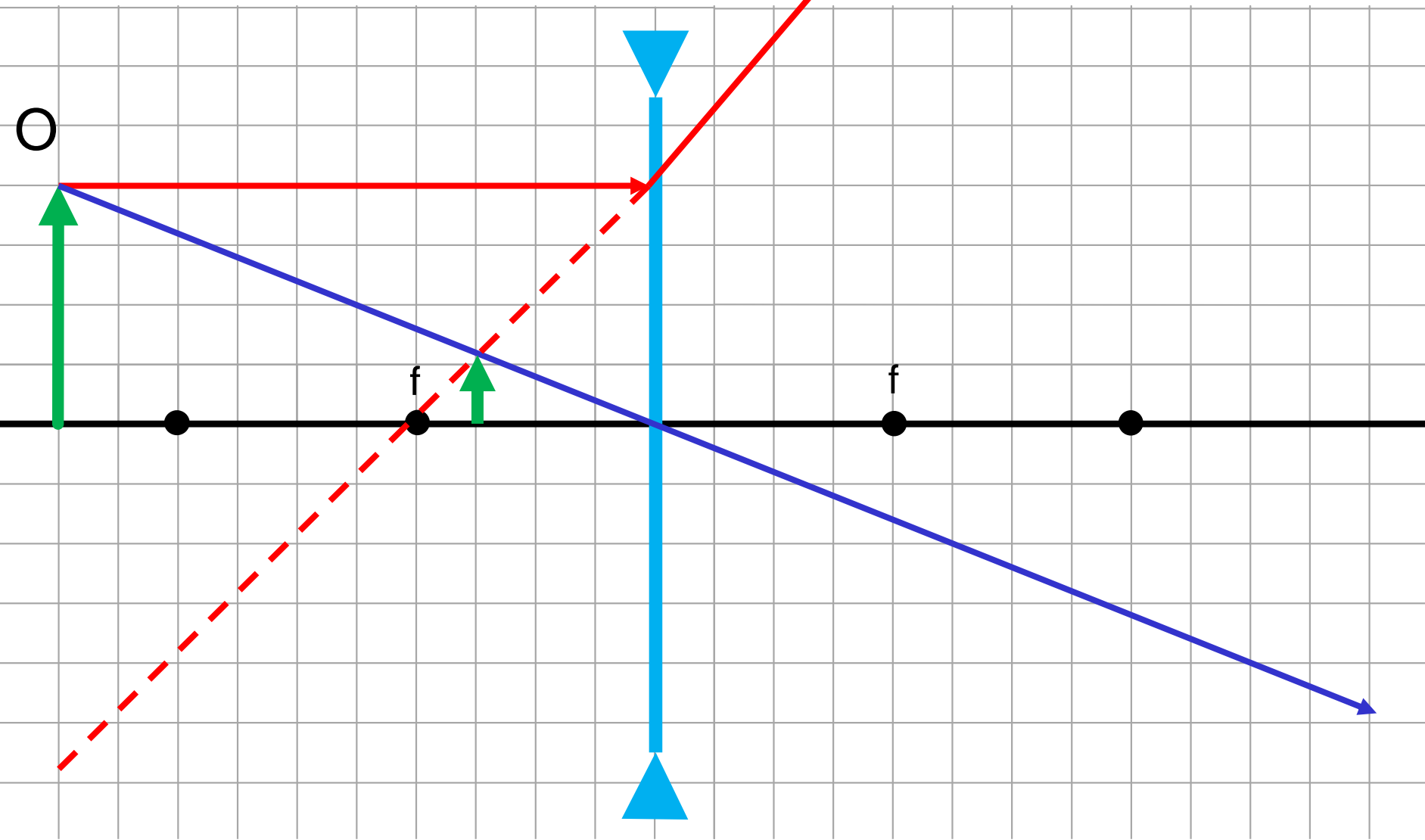








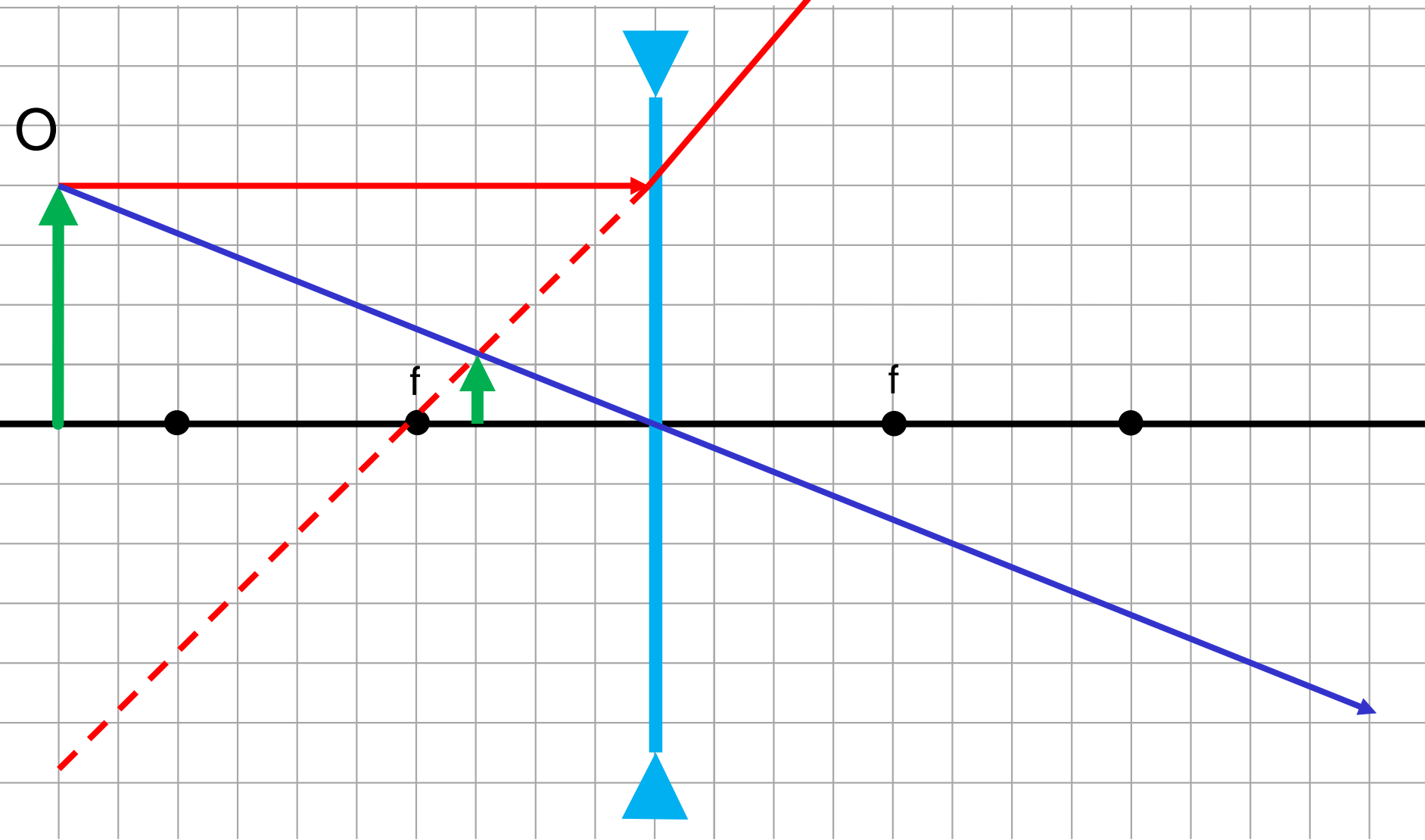




CLASSIFICAÇÃO:

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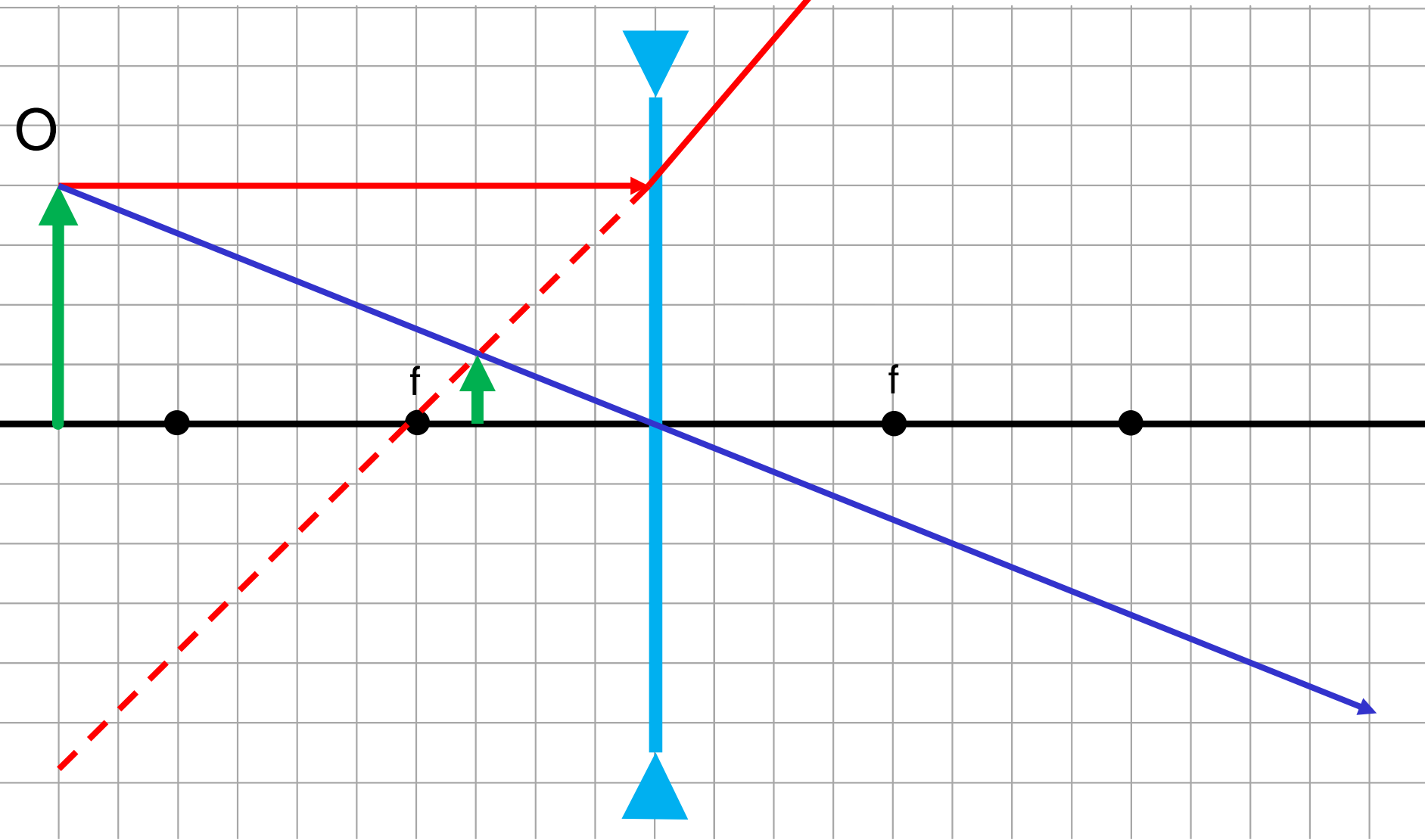
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CLASSIFICAÇÃO:

Imagem

VIRTUAL
DIREITA



O

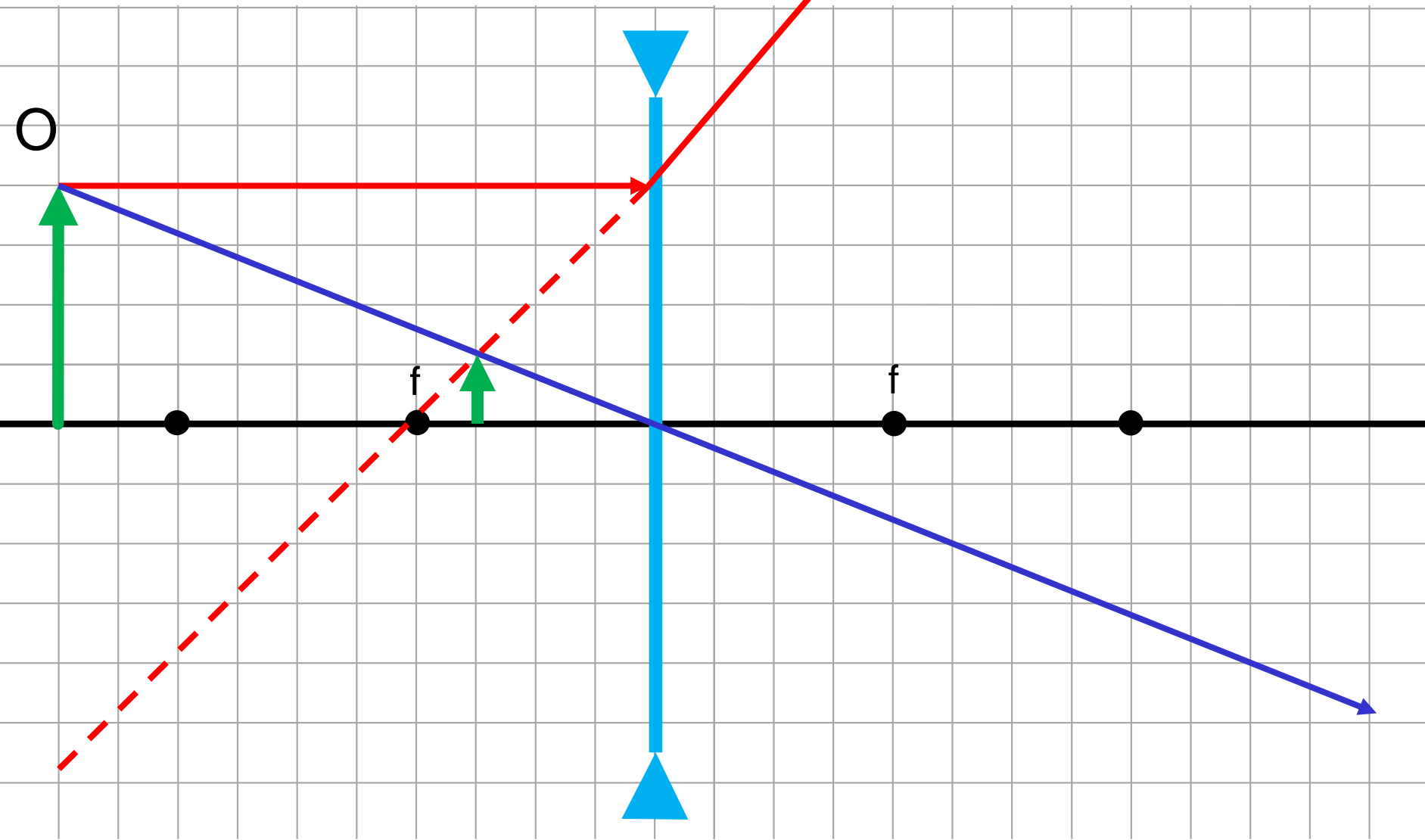
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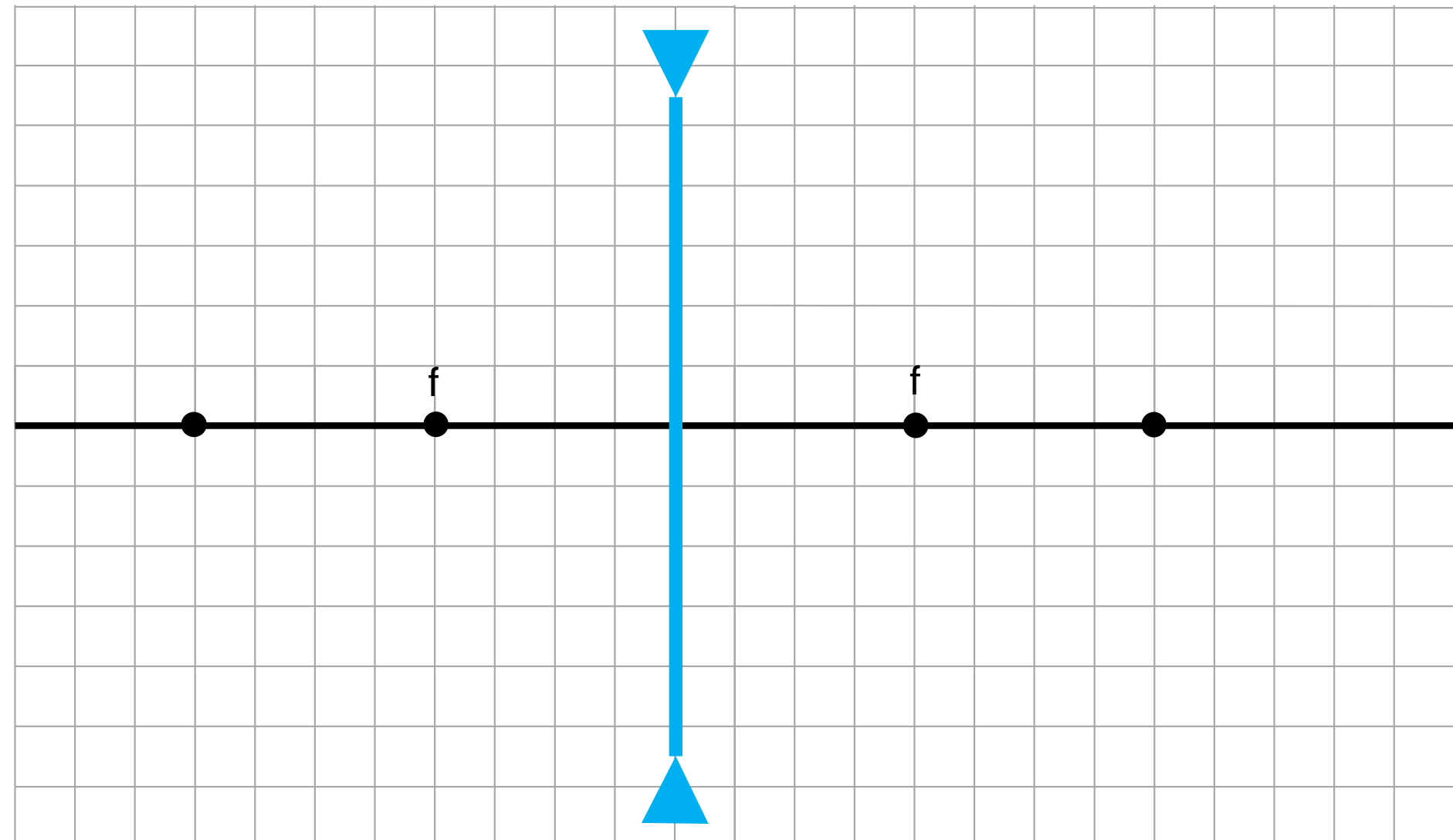
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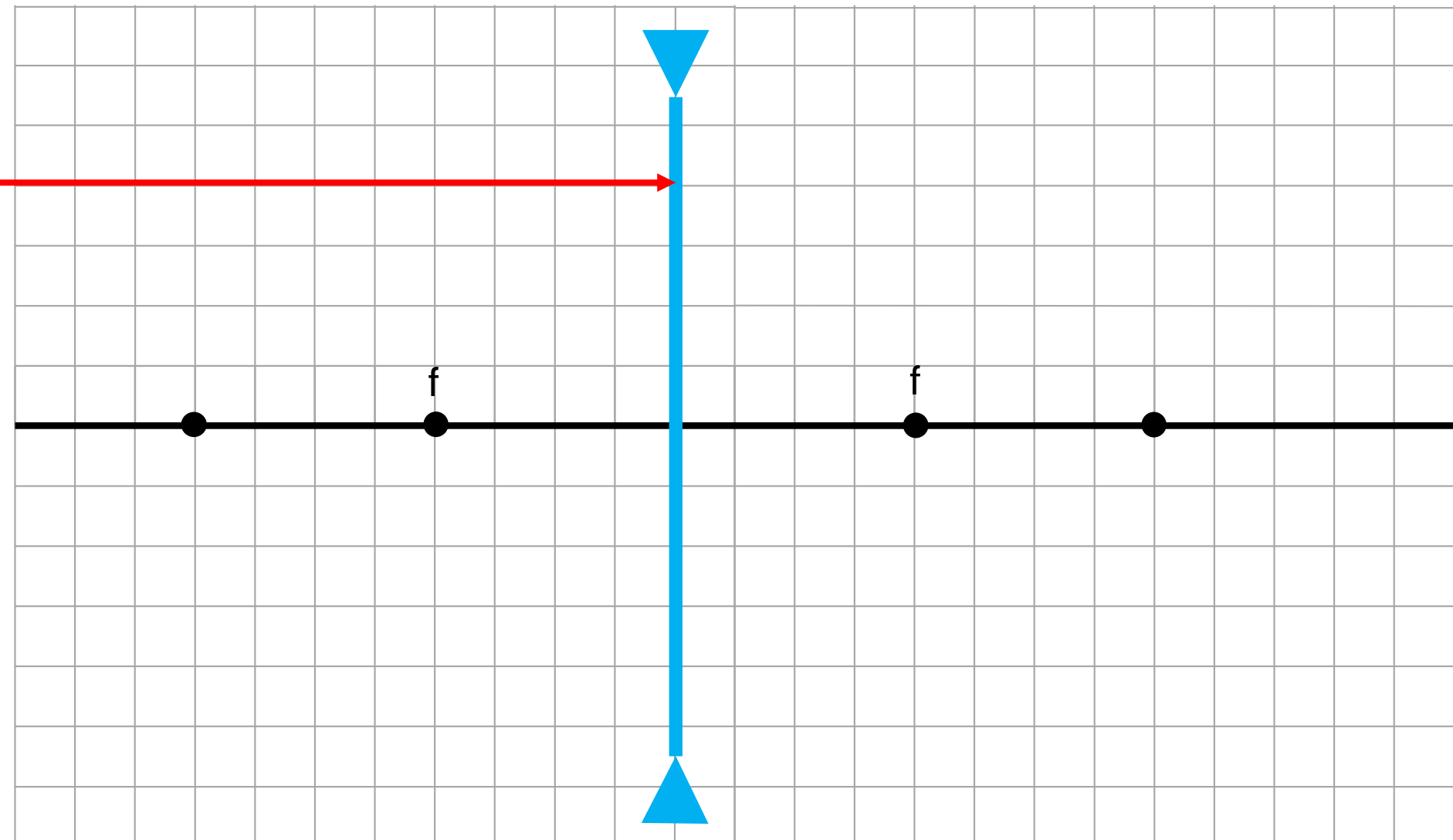
VIRTUAL
DIREITA
MENOR

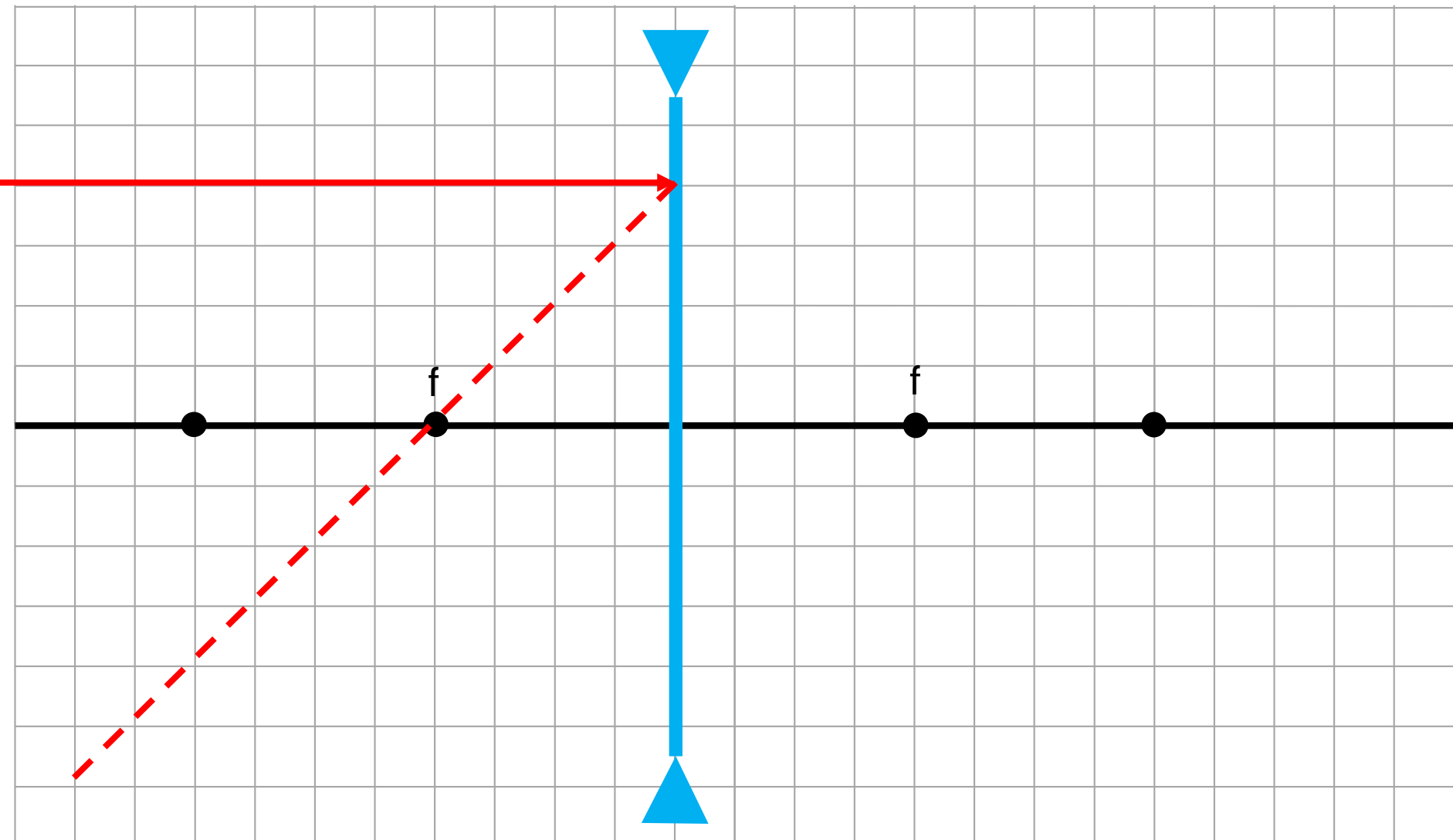


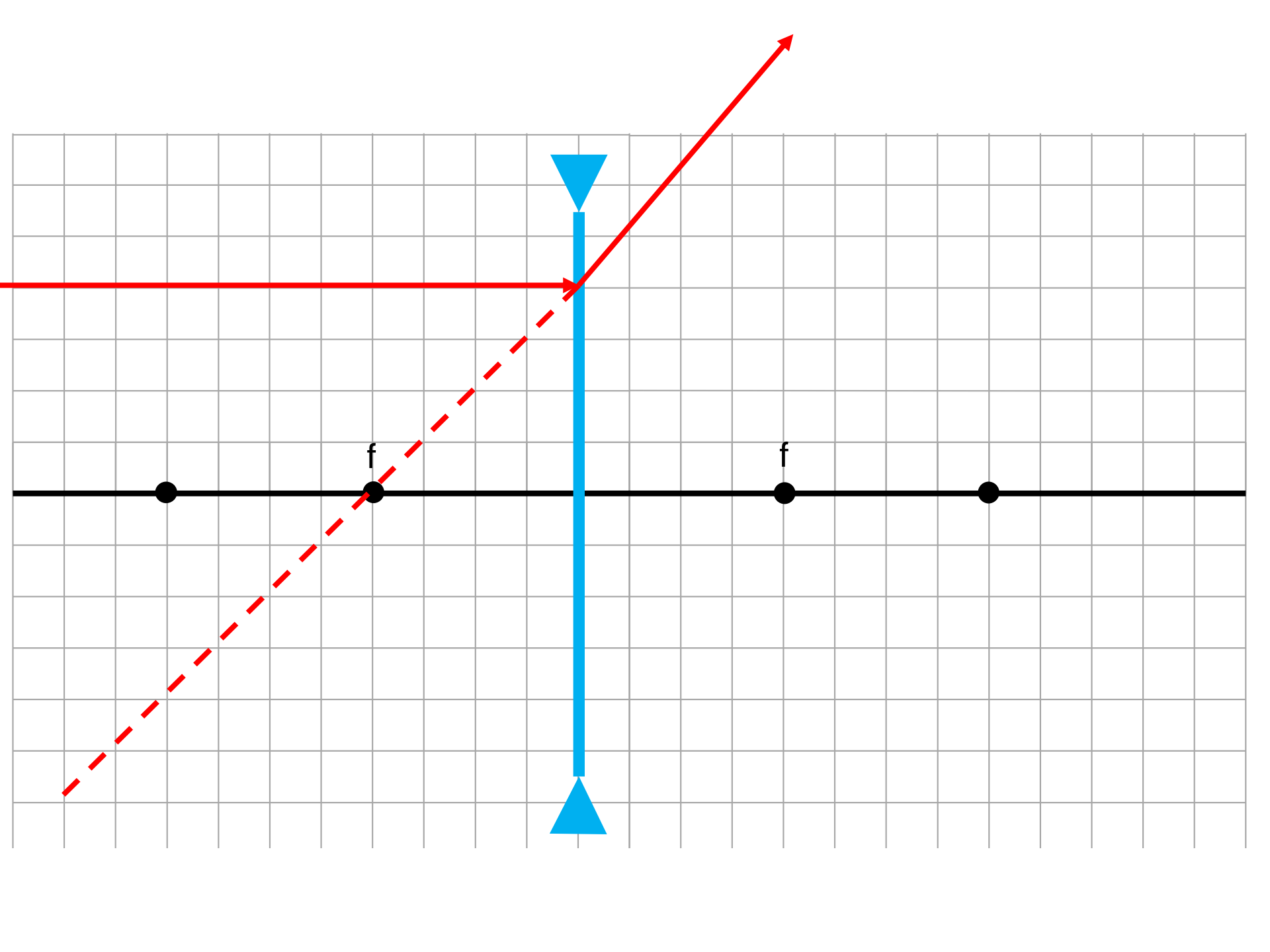


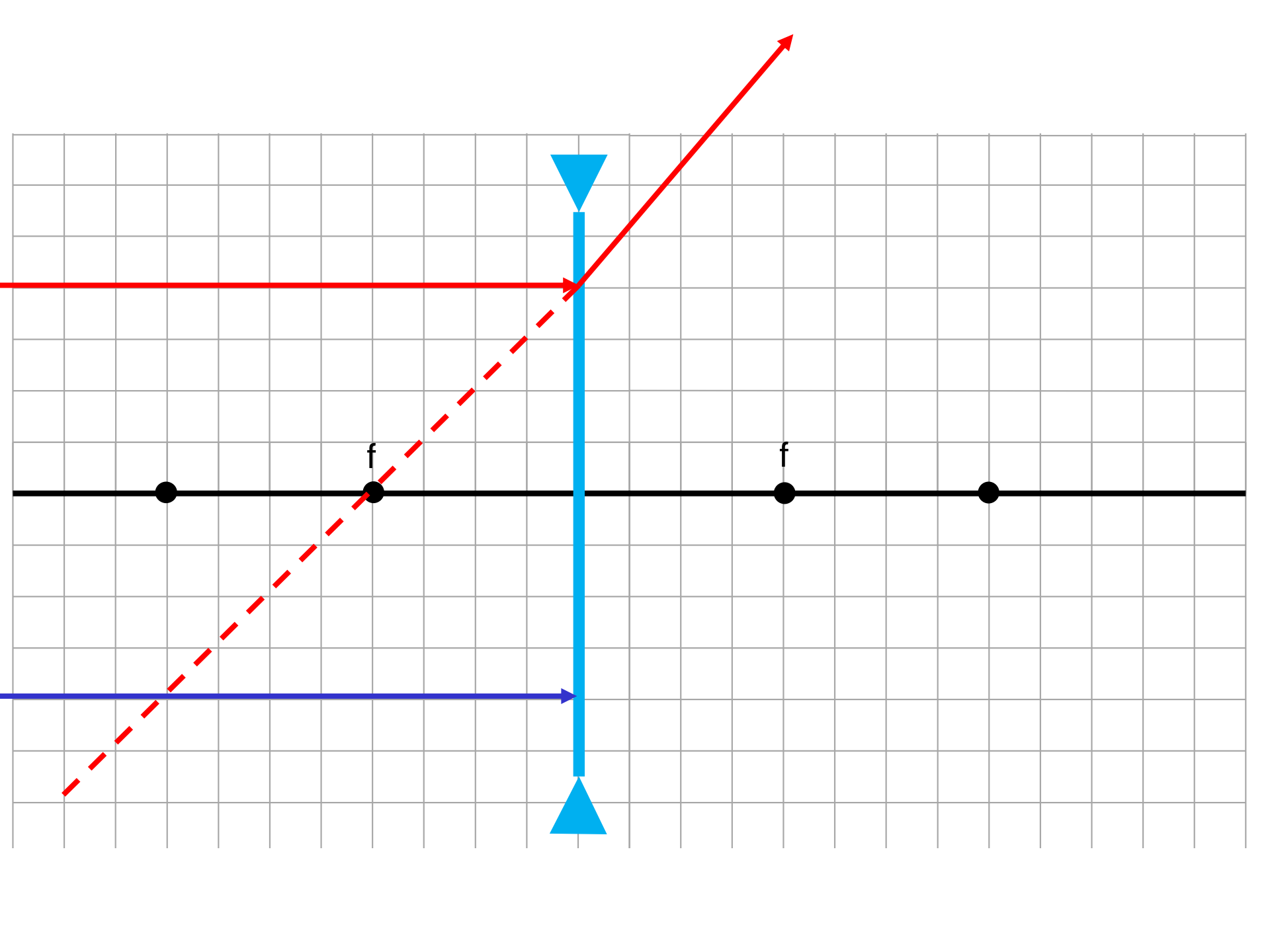
Sexto caso

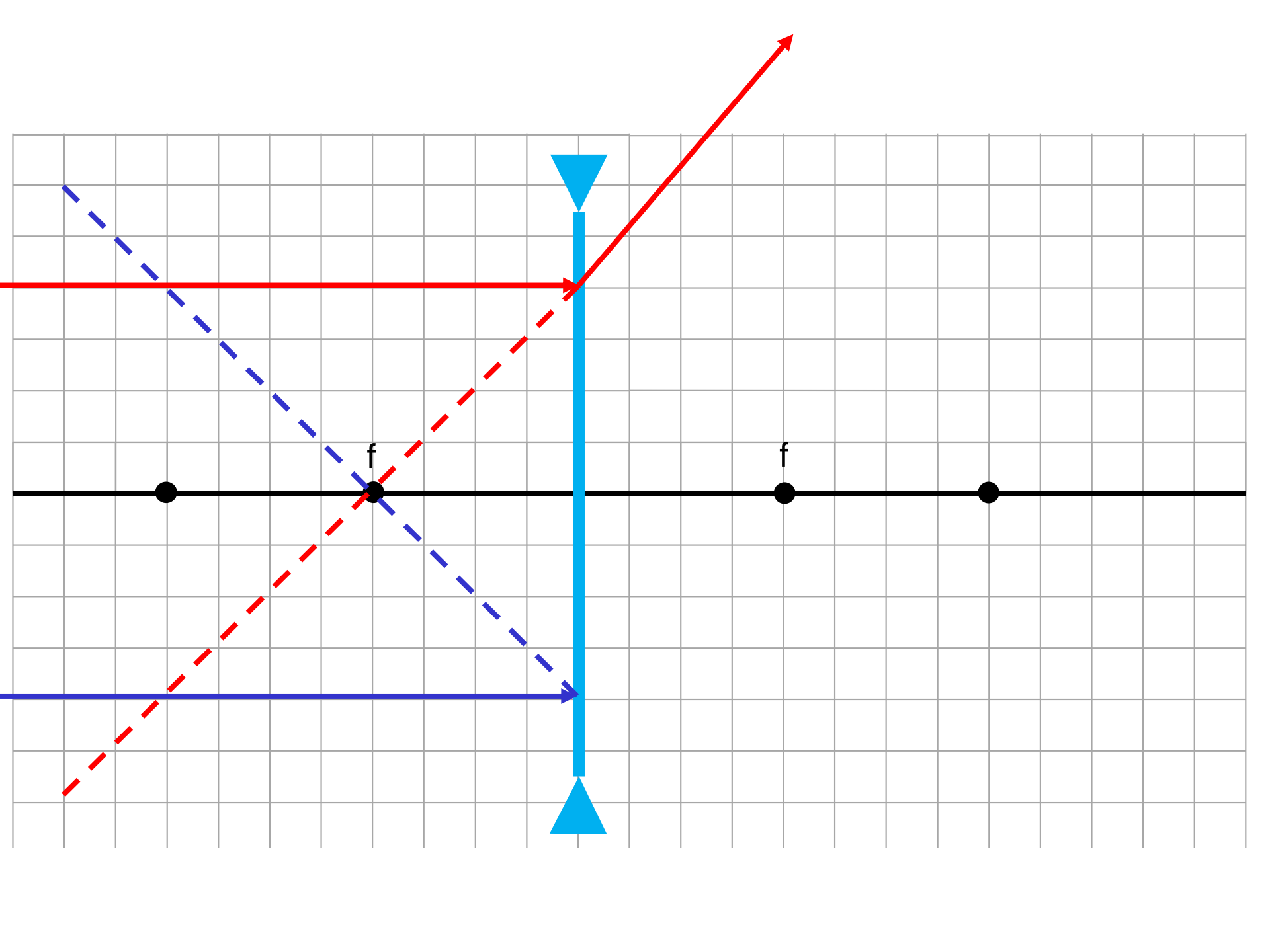


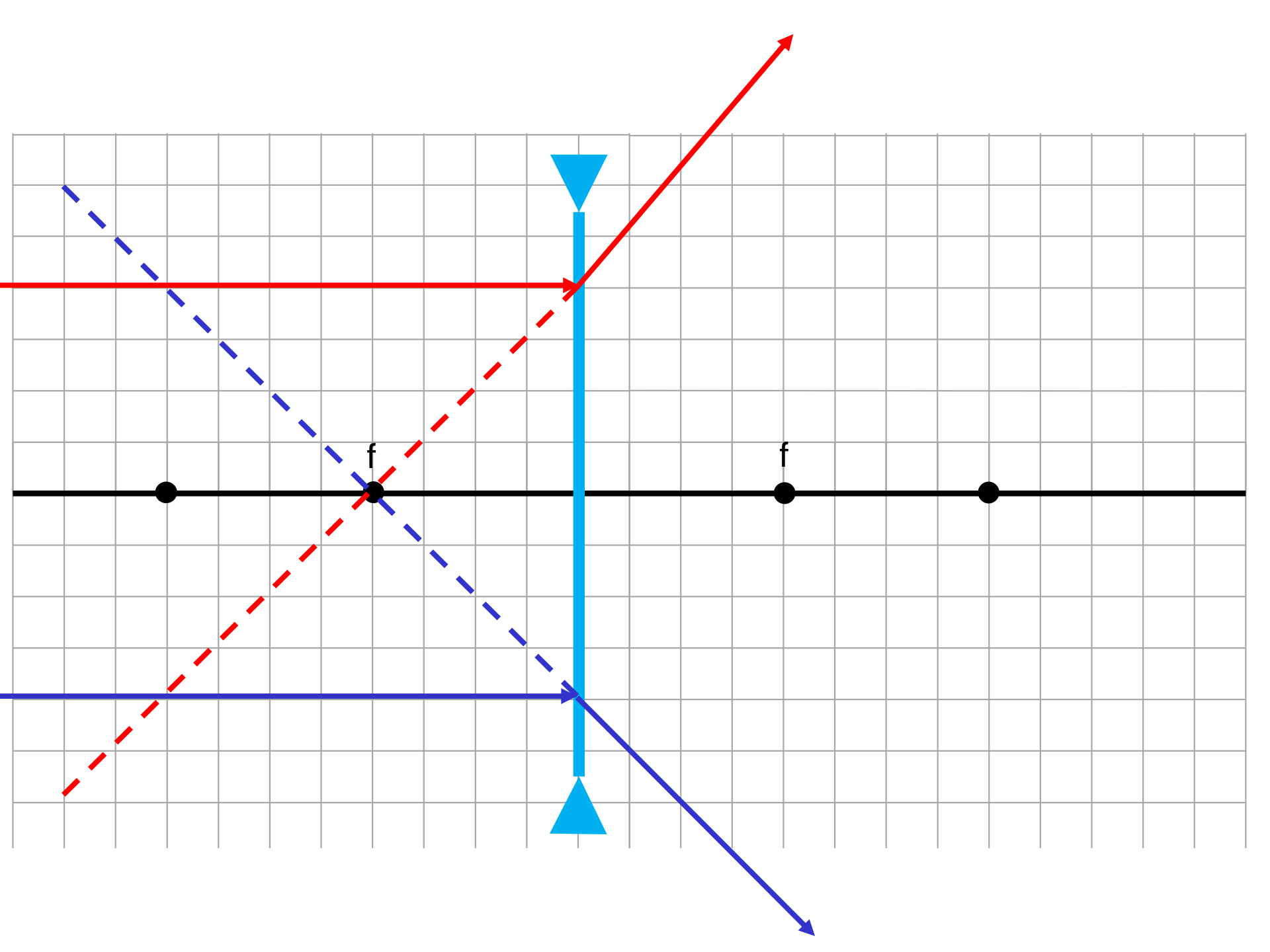




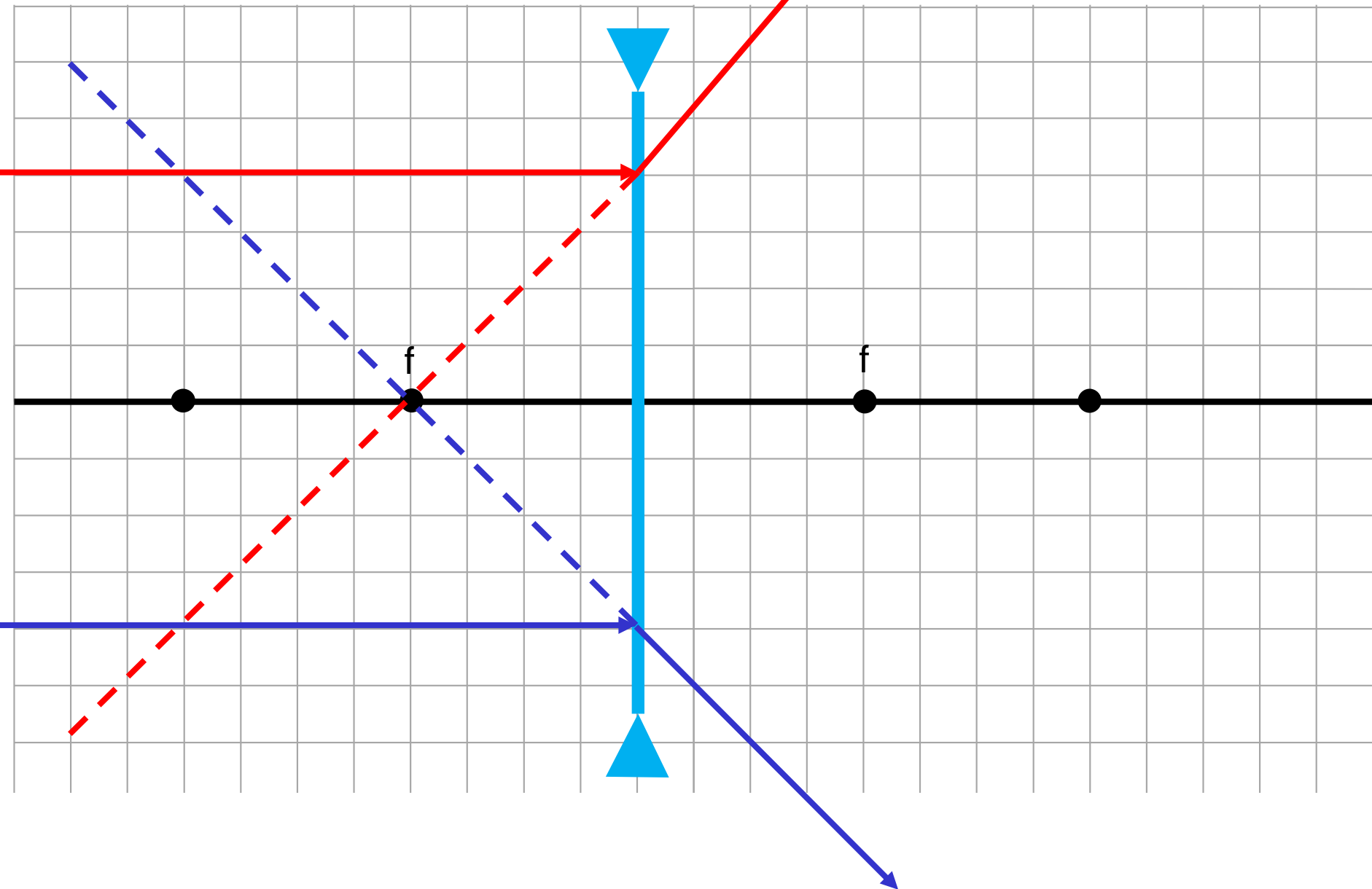






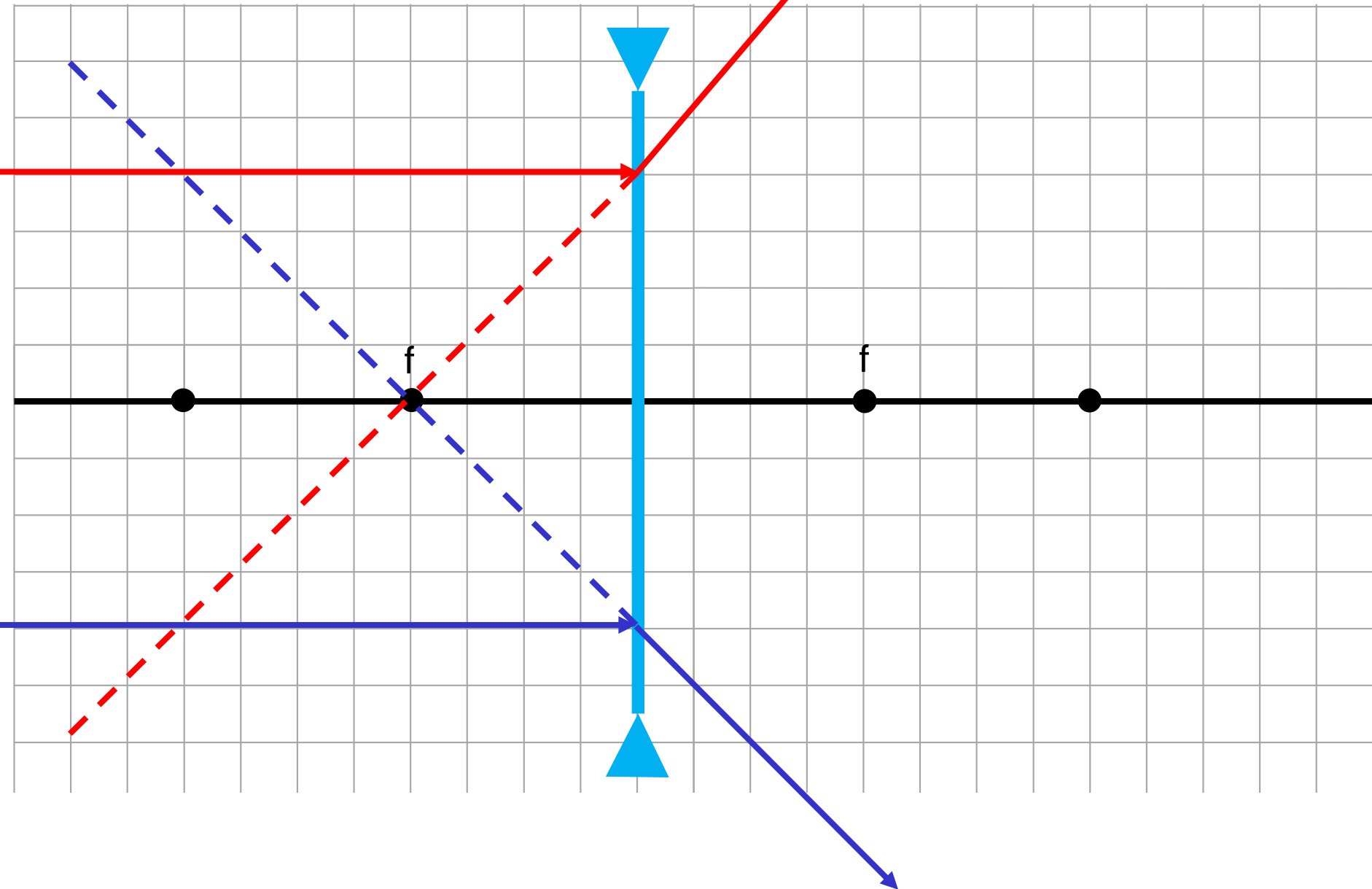


CLASSIFICAÇÃO: Imagem



CLASSIFICAÇÃO:

Imagem PONTUAL E LOCALIZADA NO FOCO IMAGEM DALENTE



ESTUDO ANALÍTICO

$$\frac{1}{f} = \frac{1}{p} + \frac{1}{p'}$$