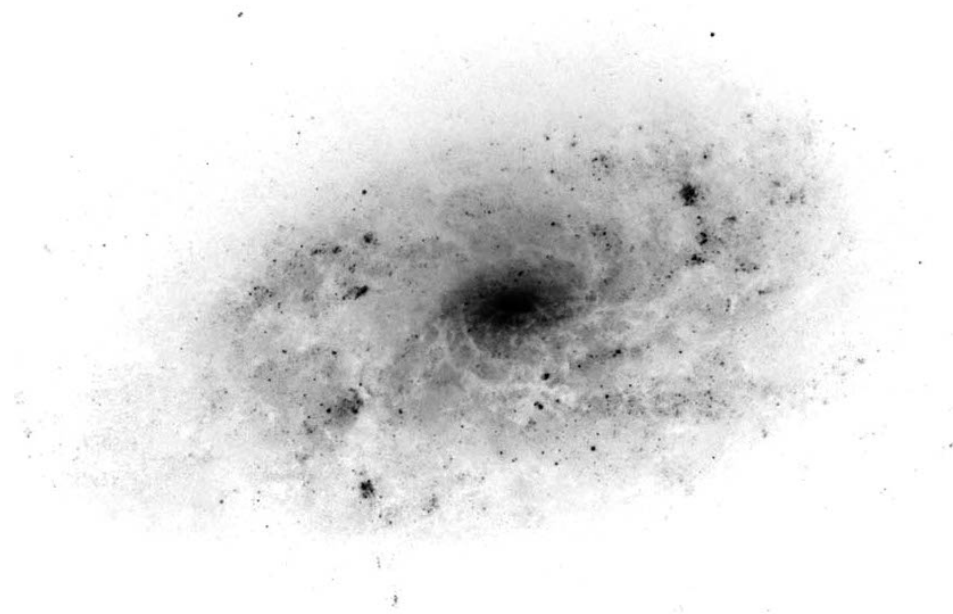


# Messierovy omalovánky

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Při pozorování vesmírných objektů je vhodné pořizovat jejich kresby, i když se vám mohou od pohledu zdát už notoricky známé. Jedině tak získáte subjektivní vyjádření toho, co jste sami skrz okulár dalekohledu viděli.

Získáte tak jednak jedinečnou památku, ale také možnost jak porovnat pozorování s jinými dalekohledy, za jiných podmínek nebo od druhých pozorovatelů.

## Kresby

Zakreslování *deep-sky* objektů je poměrně náročná činnost. Pro věrnost pozorování zahrnuje zakreslení co možná nejpřesnějších poloh hvězd v dostatečně širokém okolí pozorovaného objektu. Nezřídka jde prakticky o celé zorné pole dalekohledu, což

pro dobrou přehlednost vede k rozsáhlým kresbám. Přitom je nutné zachytit a dostatečně výrazně škálovat i poměry jasností všech viditelných hvězd.

Přesné zachycení samotného objektu včetně všech rozličných detailů je tak až archeologická práce. Zákres jednoho objektu s bohatým hvězdným okolím, jaké je u objektů v *Mléčné dráze*, nebo u *otevřených hvězdokup*, se může protáhnout až na desítky minut, jste-li opravdu pečliví.

## Omalovánky

Zakreslovací listy s hvězdným polem kolem vybraných objektů *Messierova katalogu* jsou konstruovány maximálně jednoduše, neboť se očekává značná míra iniciativy pozorova-

telů. Ale i tak by měly ulehčit značnou část práce a ušetřit nemalé množství času.

Samotné listy obsahují jen identifikaci objektu, náhledovou mapku s polohou objektu, měřítko s orientací a hvězdné pole pro dokreslení samotného objektu.

## Před zákresem

Ještě než se pustíte do zakreslování samotného objektu, je vhodné doplnit do listu několik důležitých informací.

V první řadě napište, o jaký typ objektu se jedná, a případně upřesněte jeho polohu. Při práci s těmito listy je nezbytná spolupráce s *hvězdným atlasem*, ve kterém tyto informace naleznete, pokud rozumíte v něm používaným symbolům, které se liší pro různé typy objektů. Podrobné mapy atlasu vám také pomohou najít daný objekt na obloze.

Dále pak uveďte nezbytné informace jako datum, čas a místo pozorování, použitý dalekohled a aktuální podmínky, včetně *mhv*<sup>1</sup>.

## Hvězdné pole

Hvězdné pole je centrováno na daný objekt, zpravidla má průměr 2° a obsahuje hvězdy s hvězdnou velikostí do 10 magnitud. Je konstruované pro *Somet binar 25×100*. Slabší

hvězdy ještě viditelné v dalekohledu opět musíte zakreslit sami. Těch už ale naštěstí mnoho nebude a navíc máte připravenou „sít“, do které je stačí jen dokreslit.

Nemusíte samozřejmě zakreslovat všechny hvězdy do mapky, pak ale nezapomeňte např. kružítkem vyznačit, s jakou částí pole jste pracovali.

## Kresba

V kresbě se snažte zachytit co možná nejvíce detailů a buďte až puntičkářsky pečliví.

## Popis

Říká se sice, že jeden obrázek vydá za tisíc slov, ale bohatý slovní popis vaši kresbu dokáže ještě více rozšířit. Pomocí několika vět můžete popsat to, co se vám nepodařilo tahy tužkou zachytit.

## Vlastní hvězdné pole

Obdobné zakreslovací mapky nejen pro objekty Messierova katalogu si můžete připravit i sami. Já jsem hvězdné pole získal z programu *SkyChart/Cartes du Ciel*<sup>2</sup> a náhledy souhvězdí pomocí programu *pp3*<sup>3</sup>.

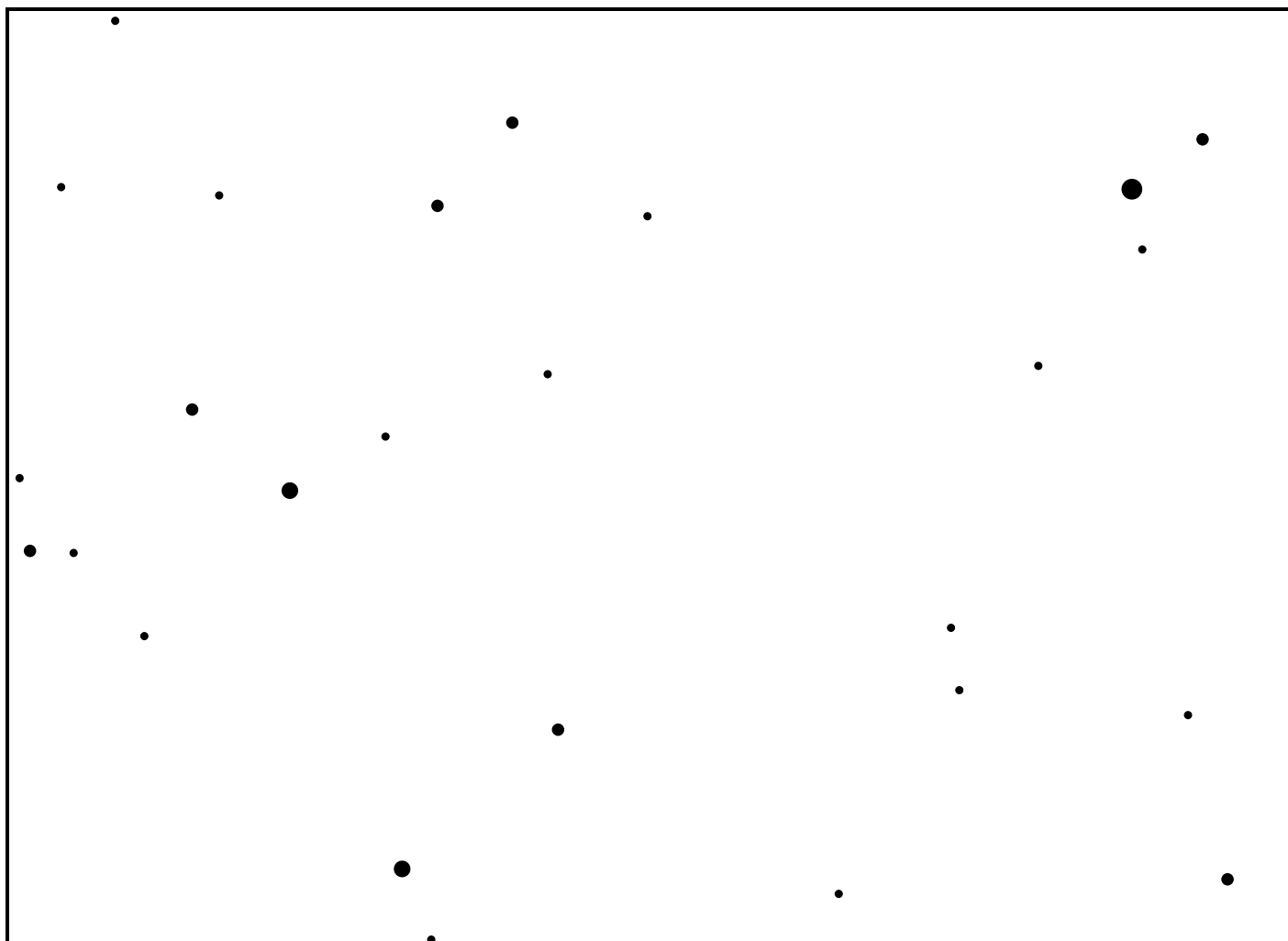
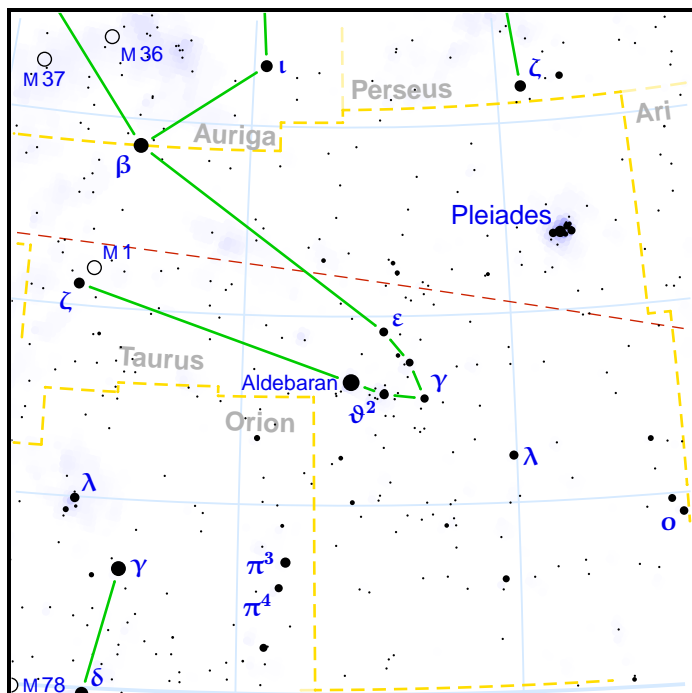
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<sup>1</sup>mezní hvězdná velikost

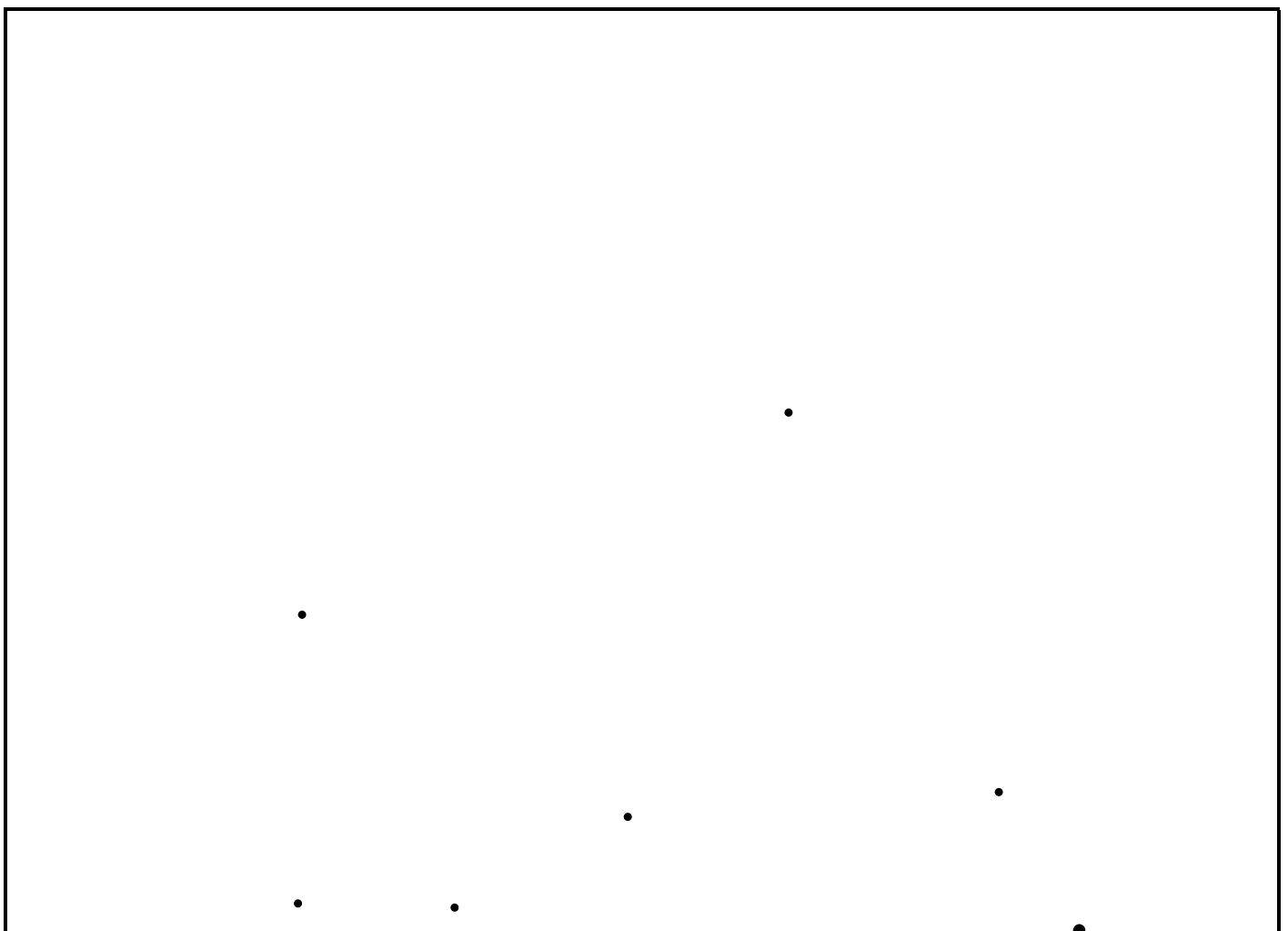
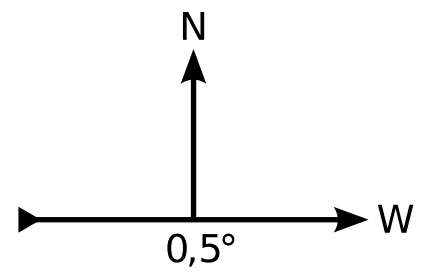
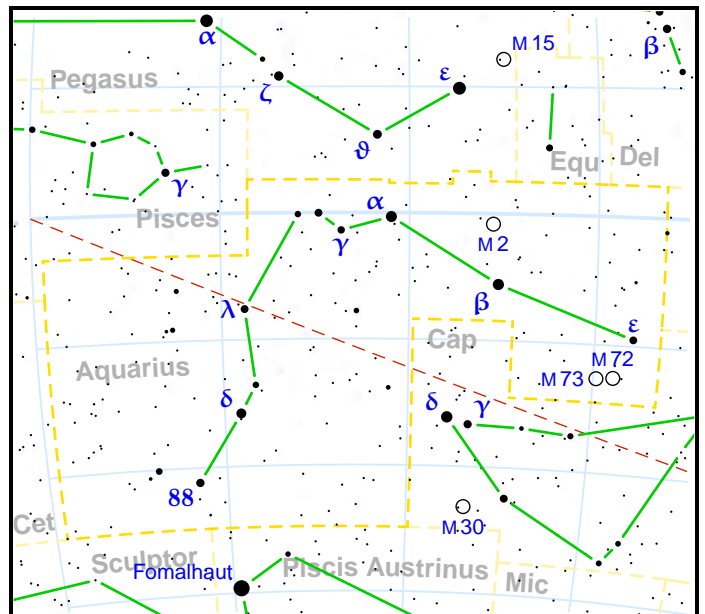
<sup>2</sup><http://www.ap-i.net/skychart/>

<sup>3</sup><http://pp3.sourceforge.net/>

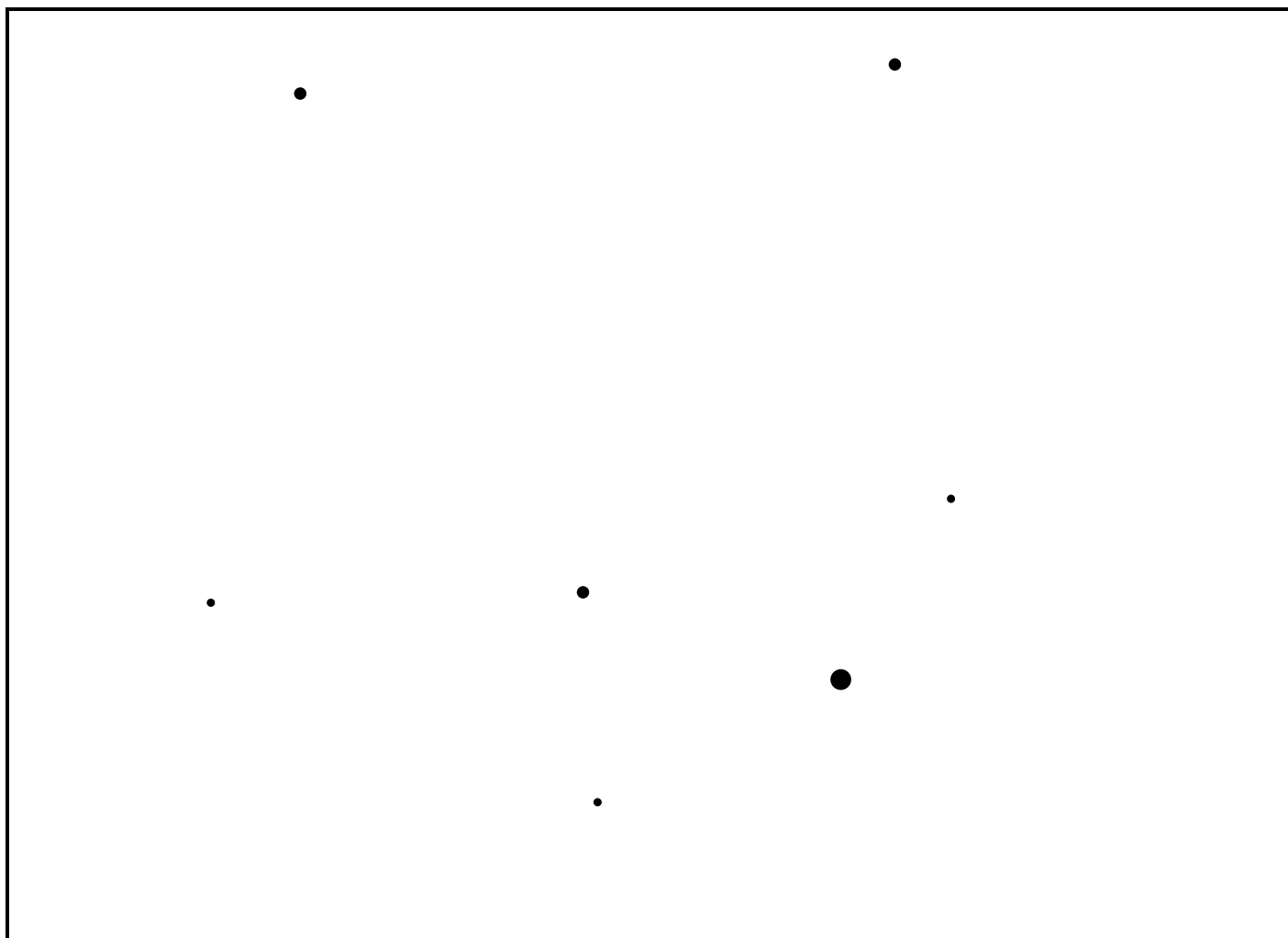
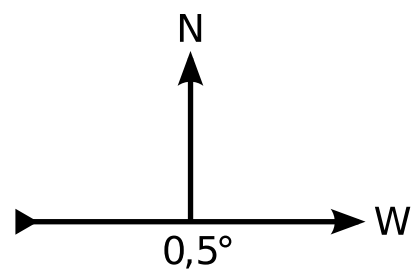
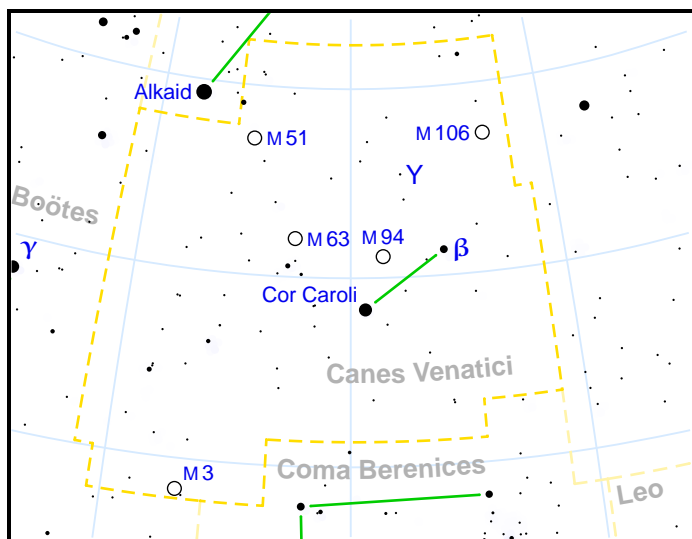
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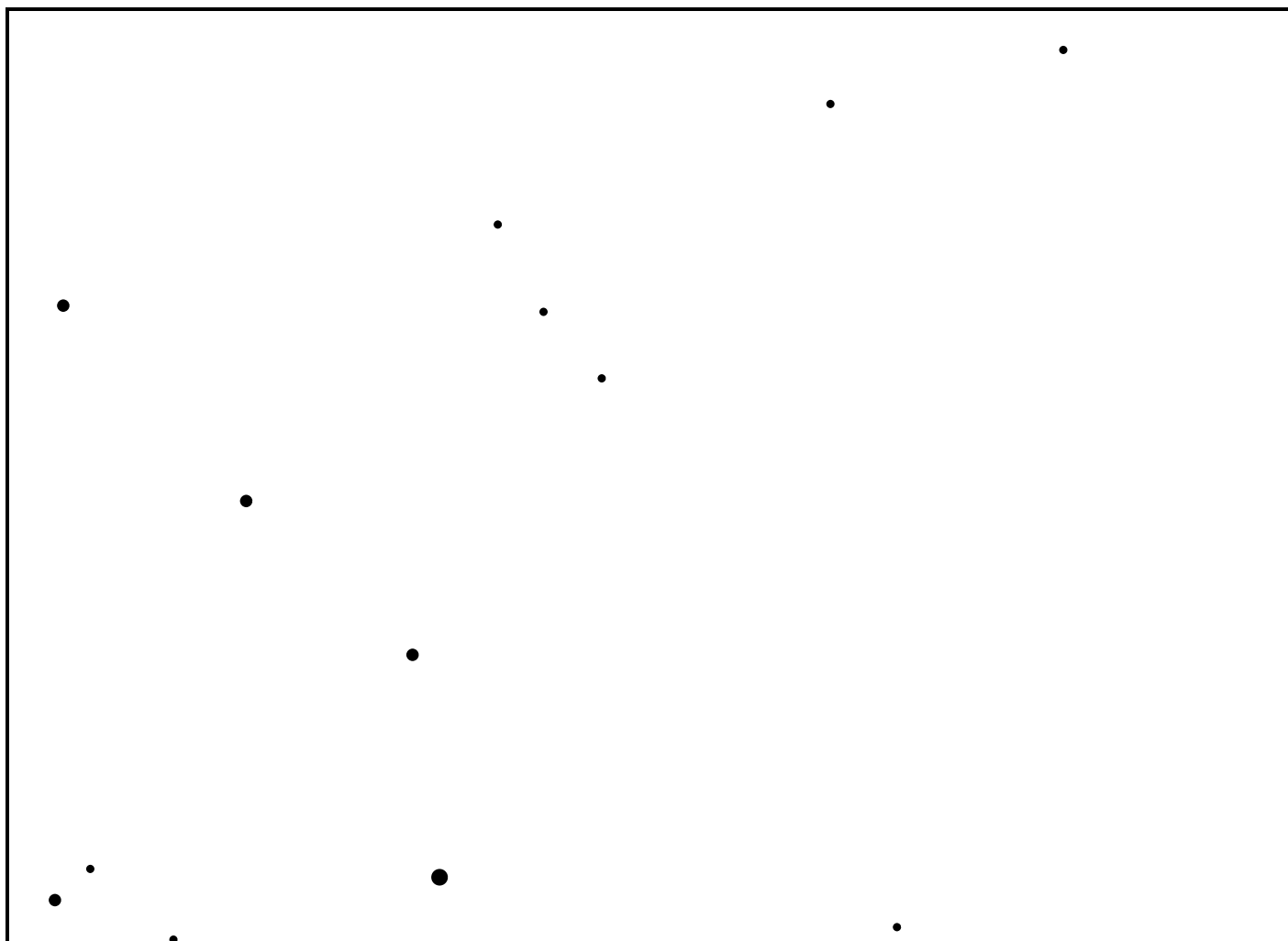
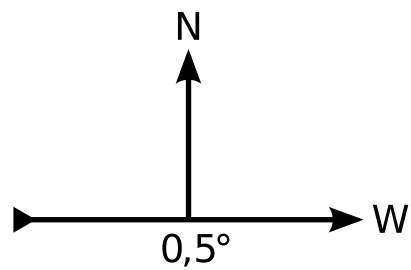
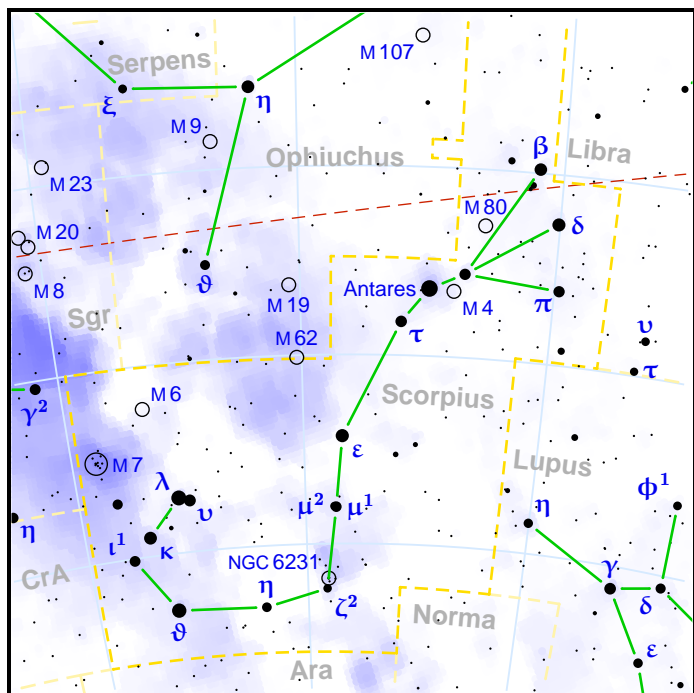
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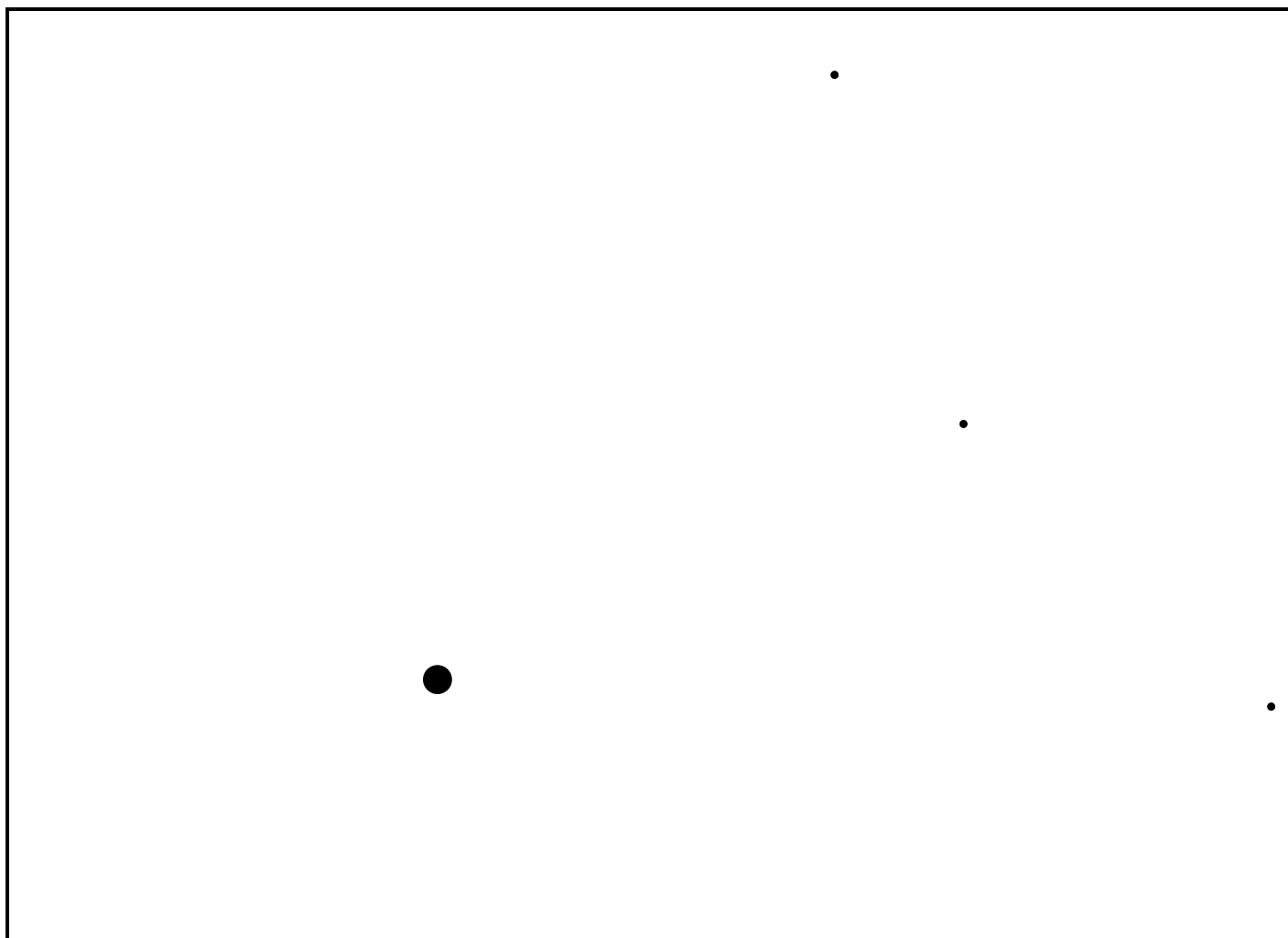
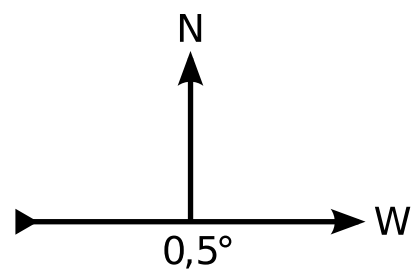
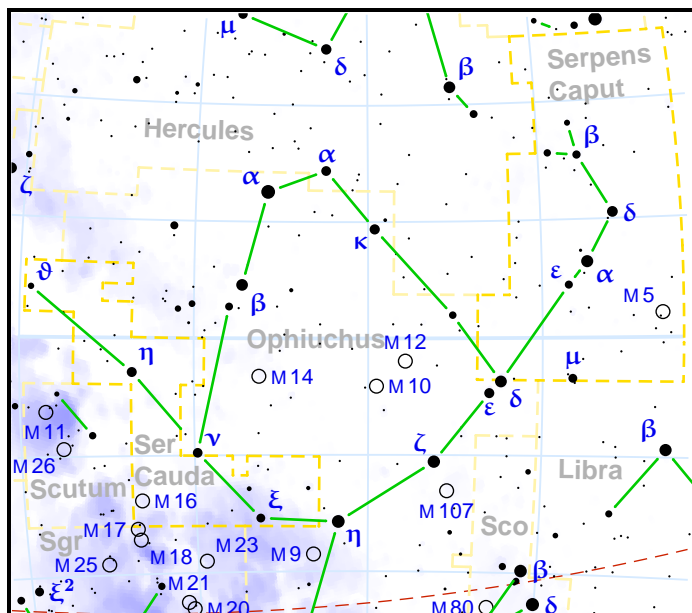
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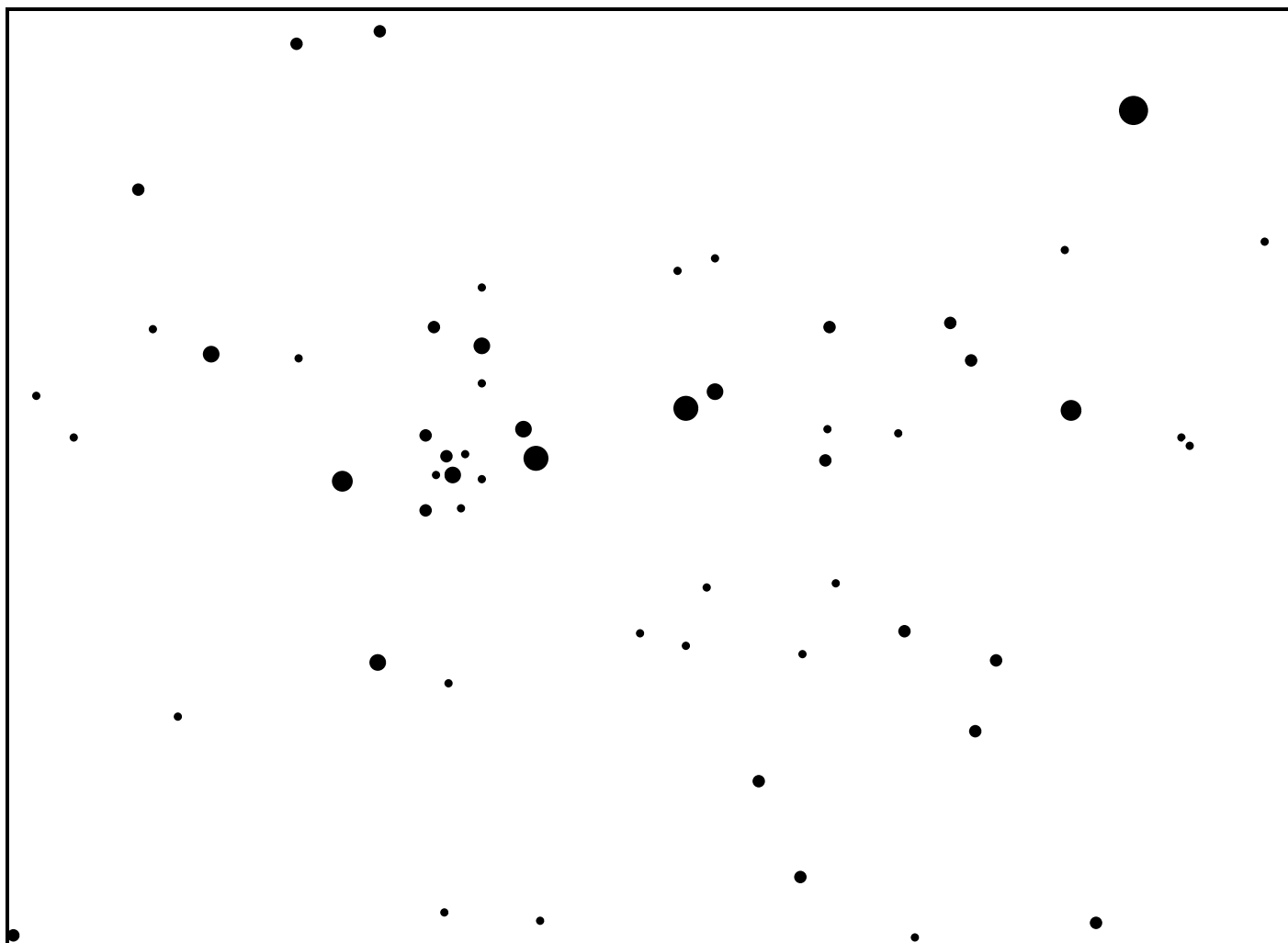
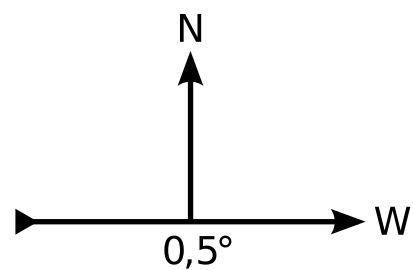
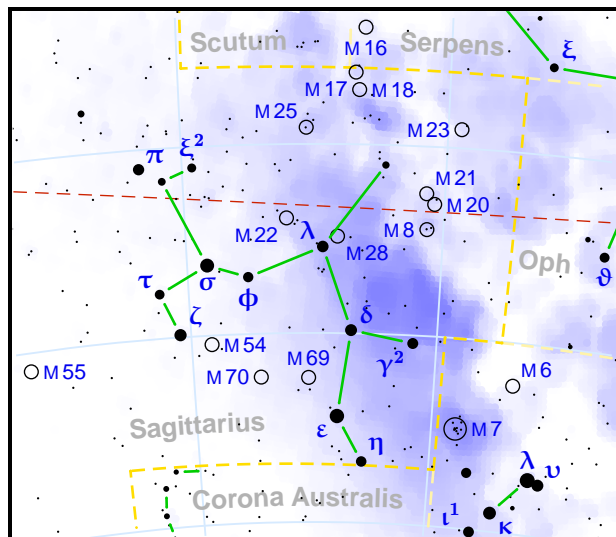
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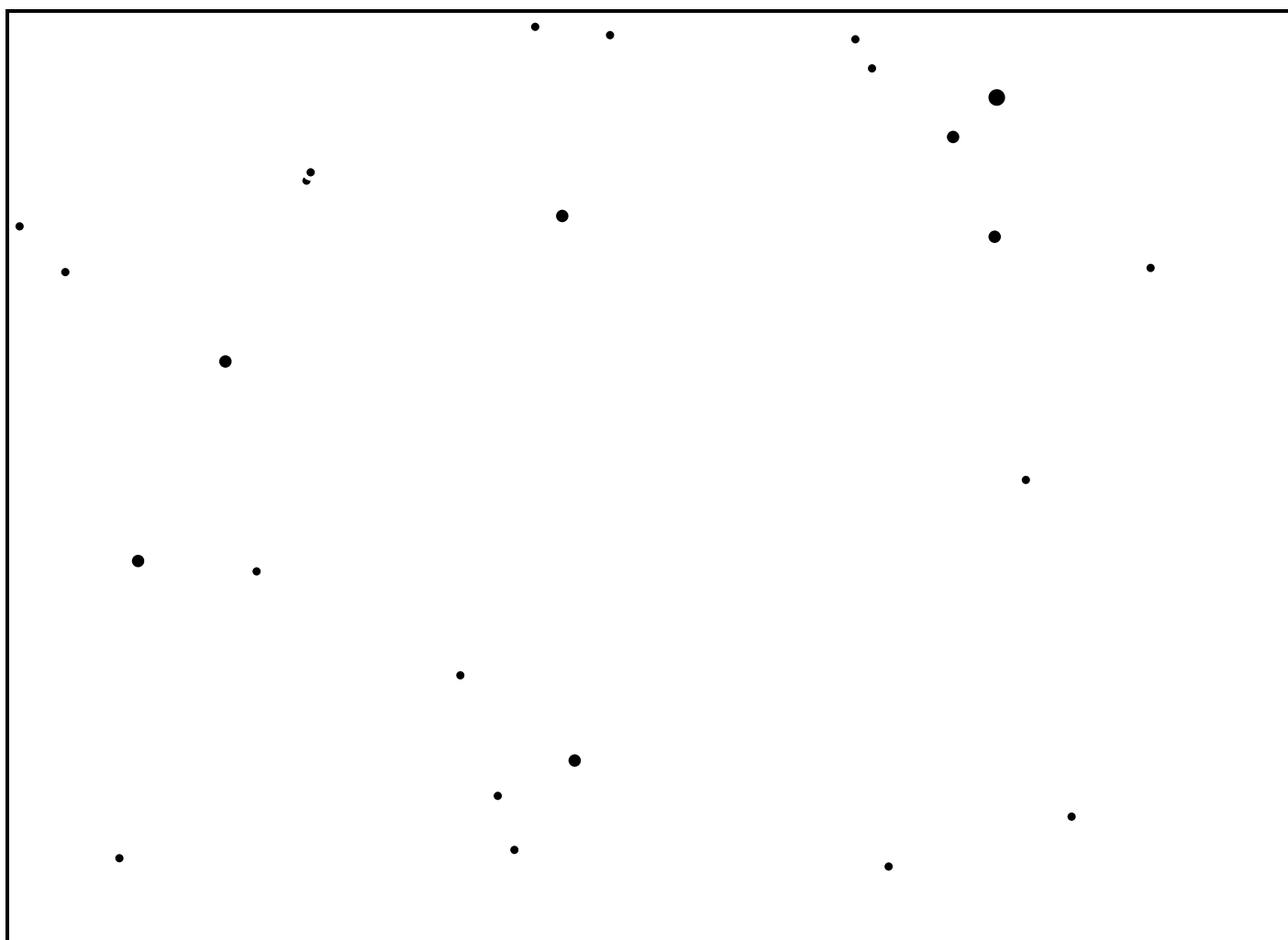
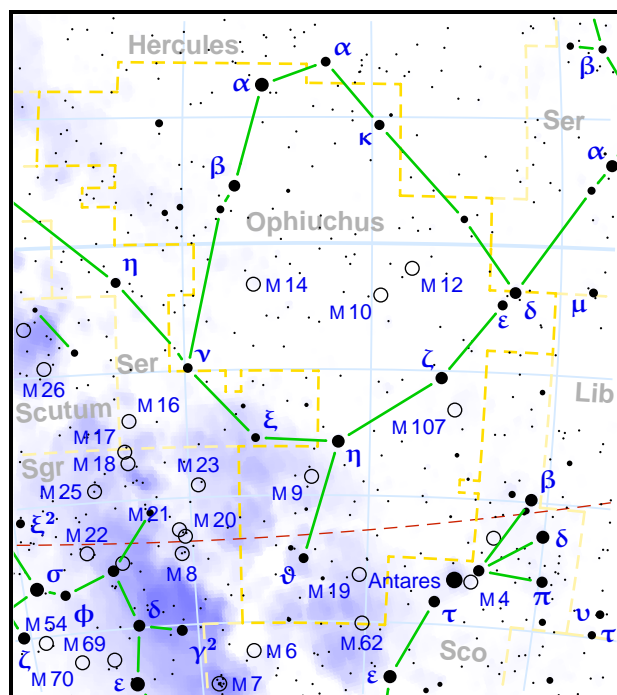


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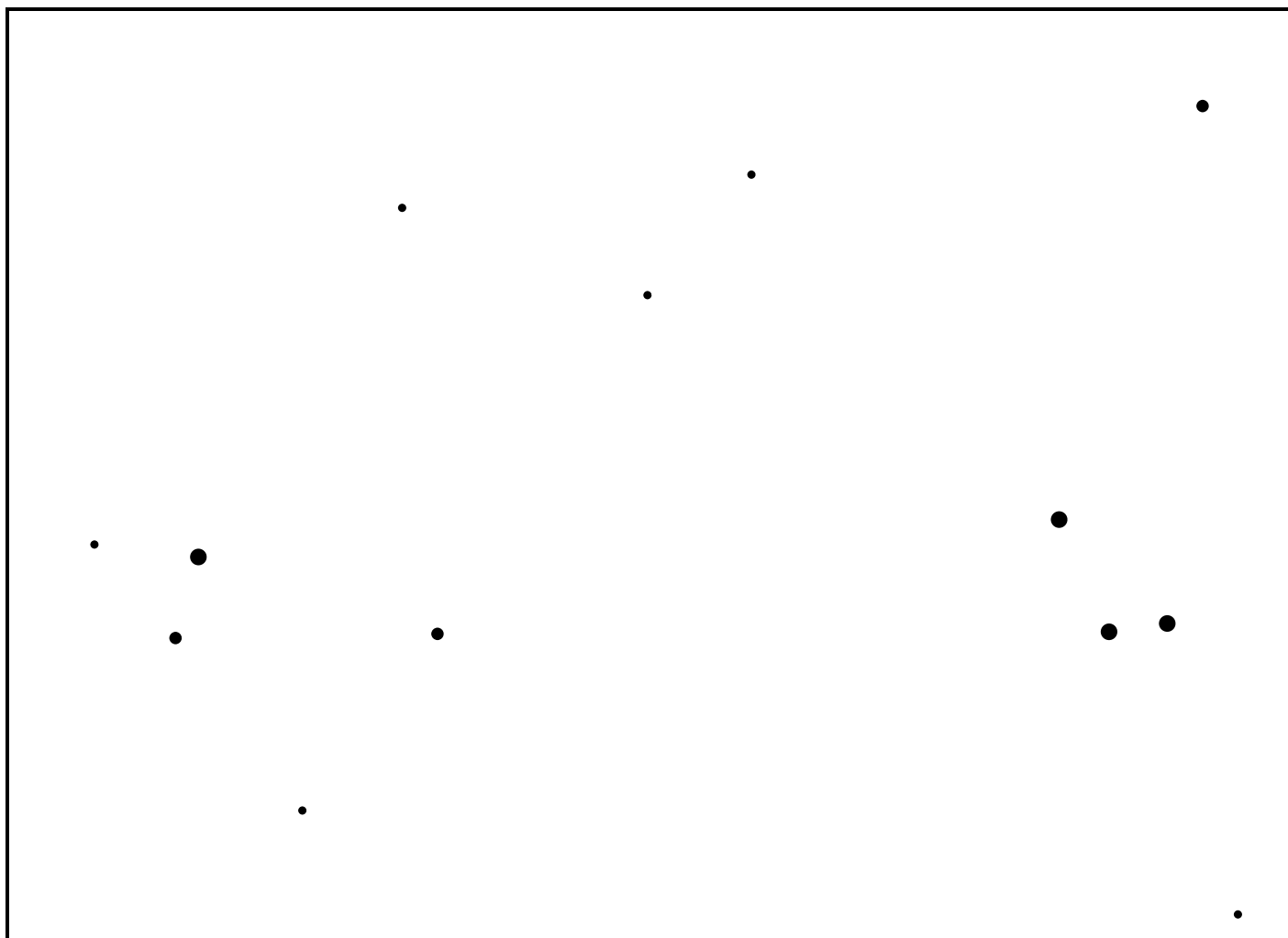
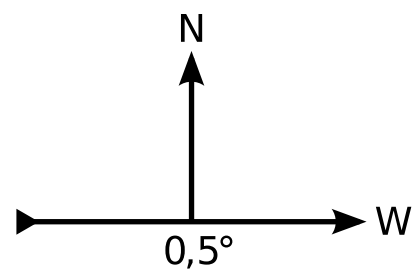
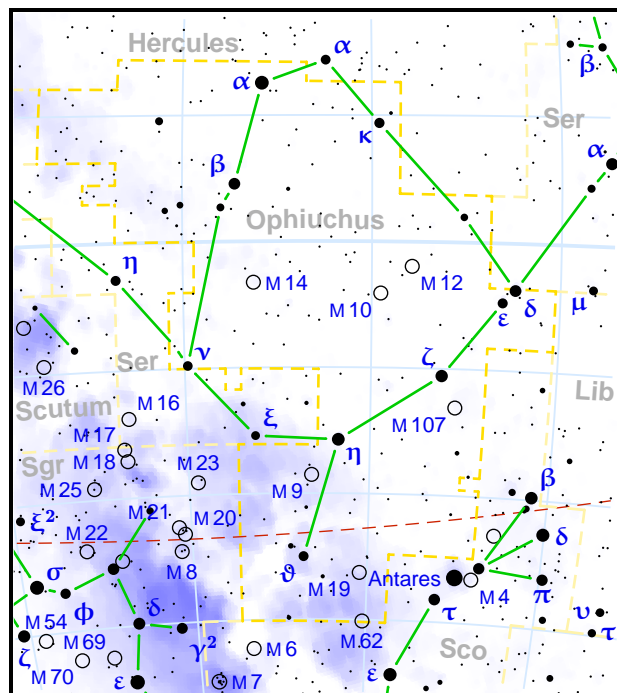




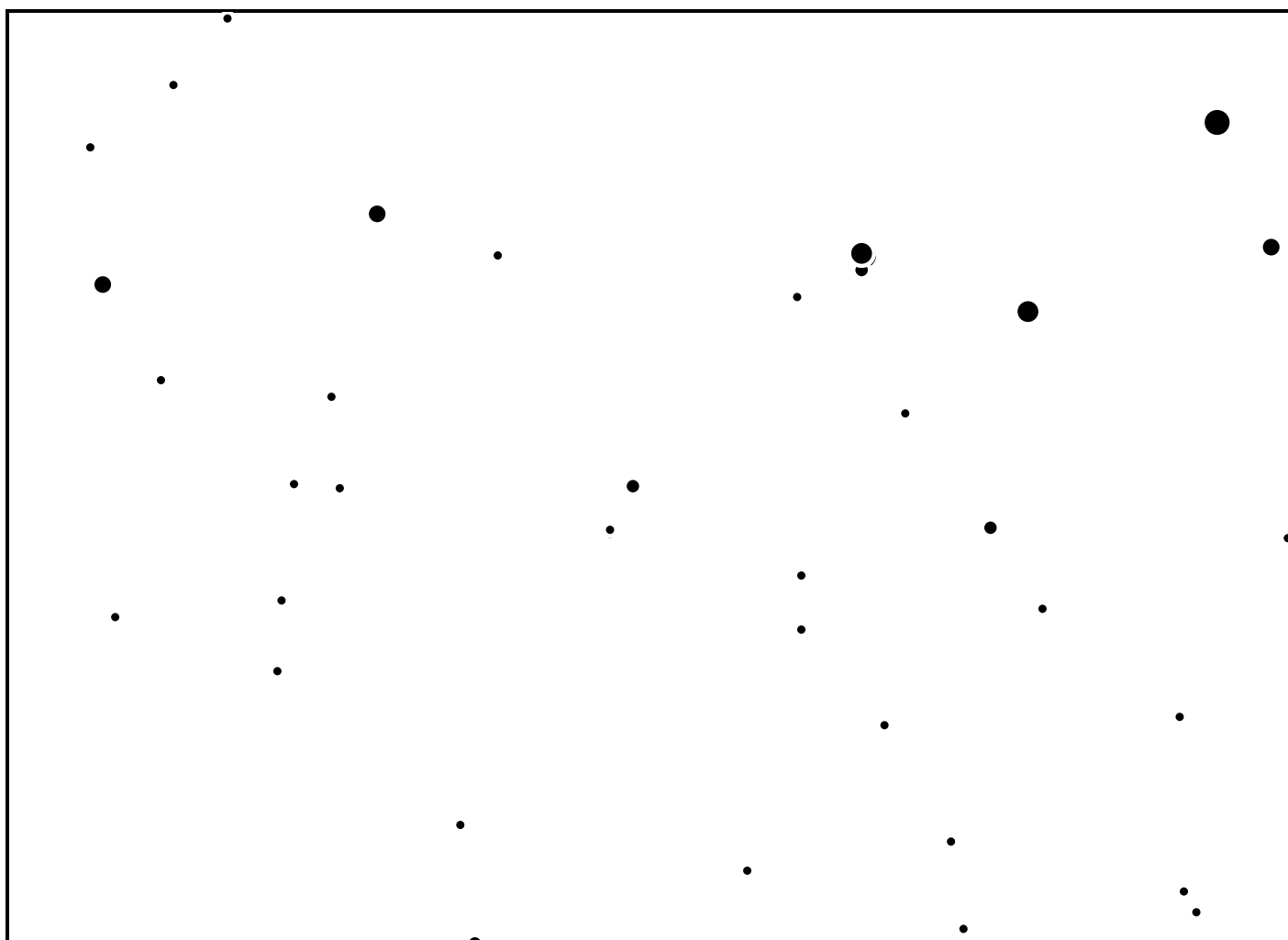
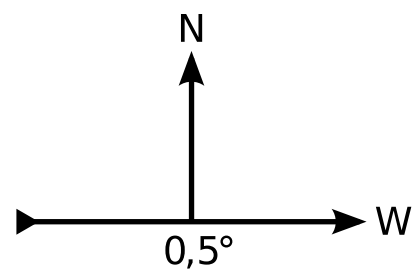
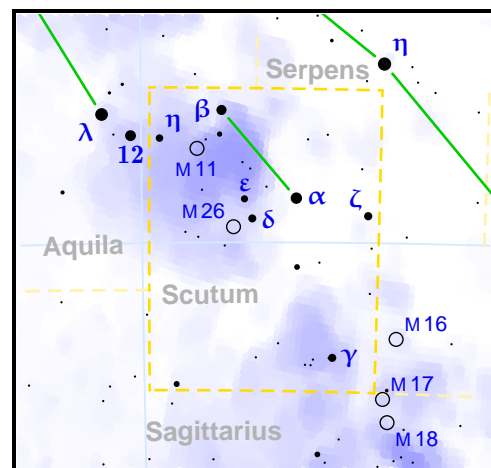
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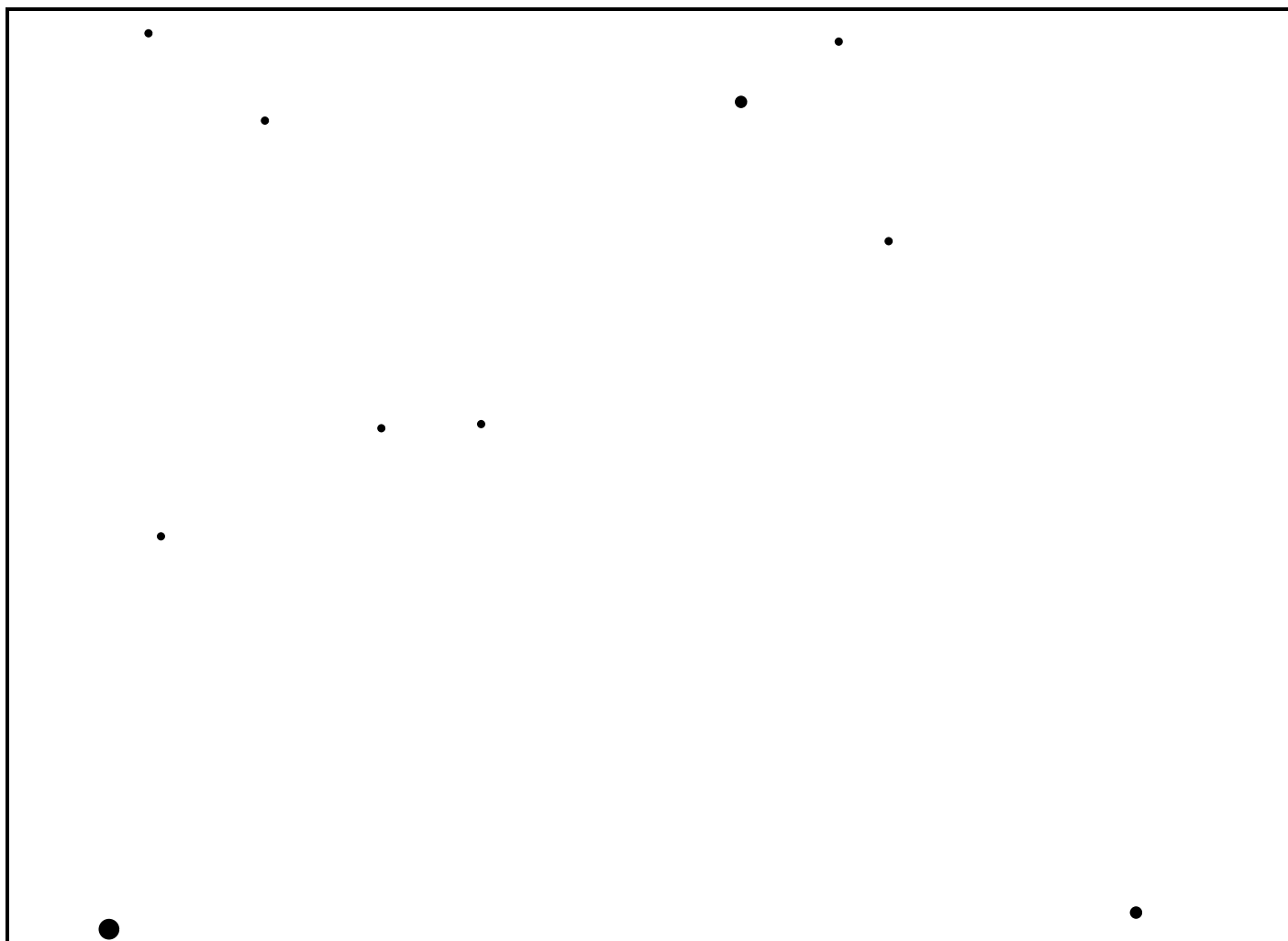
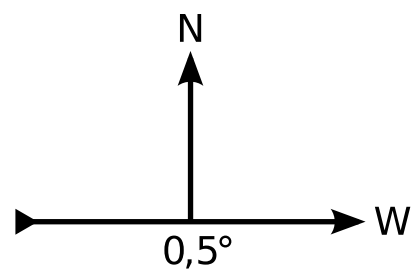
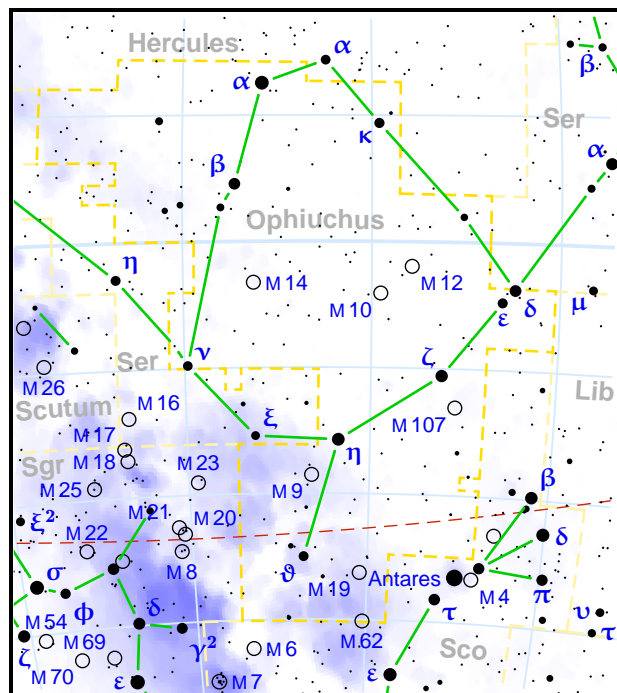
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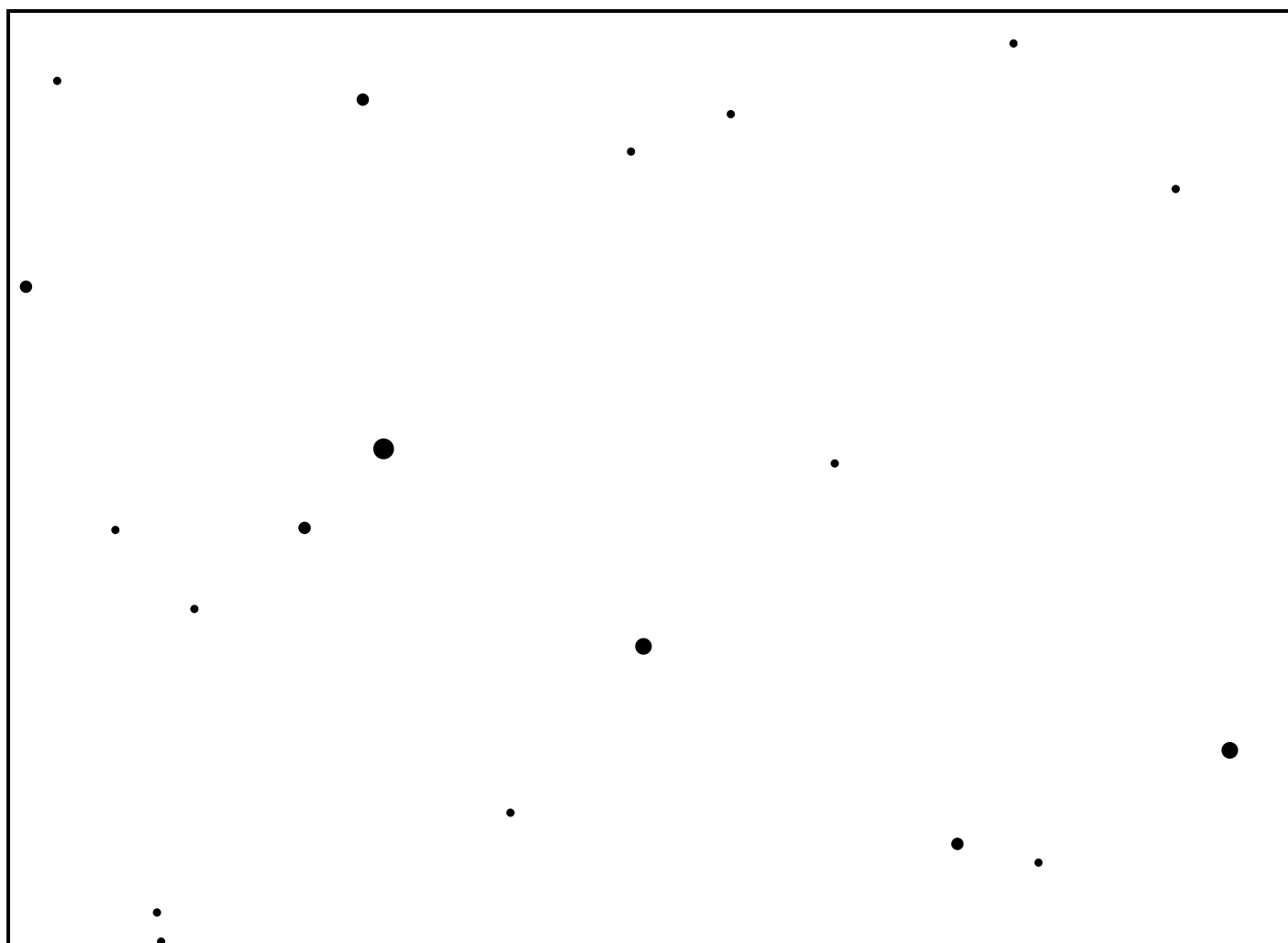
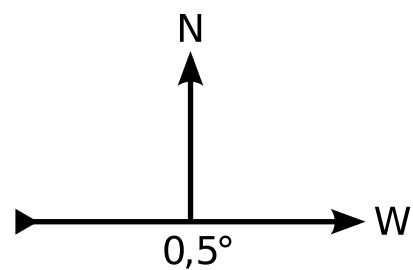
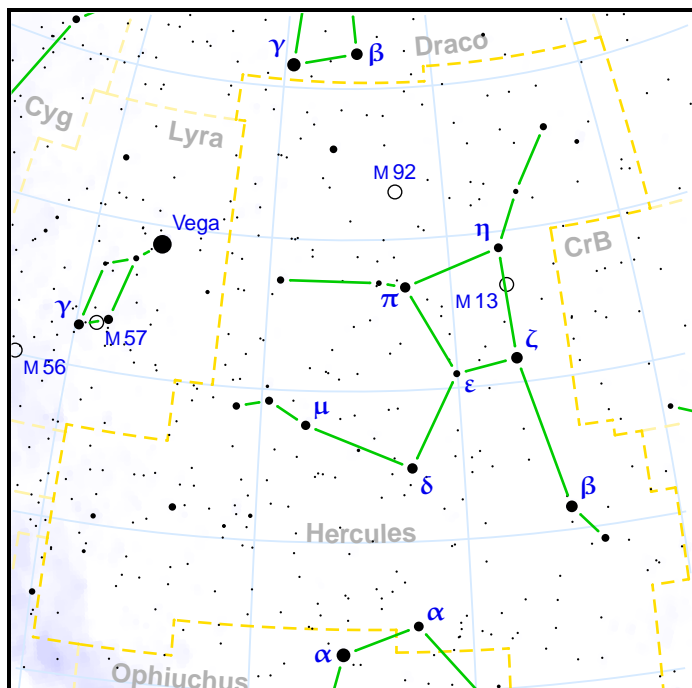
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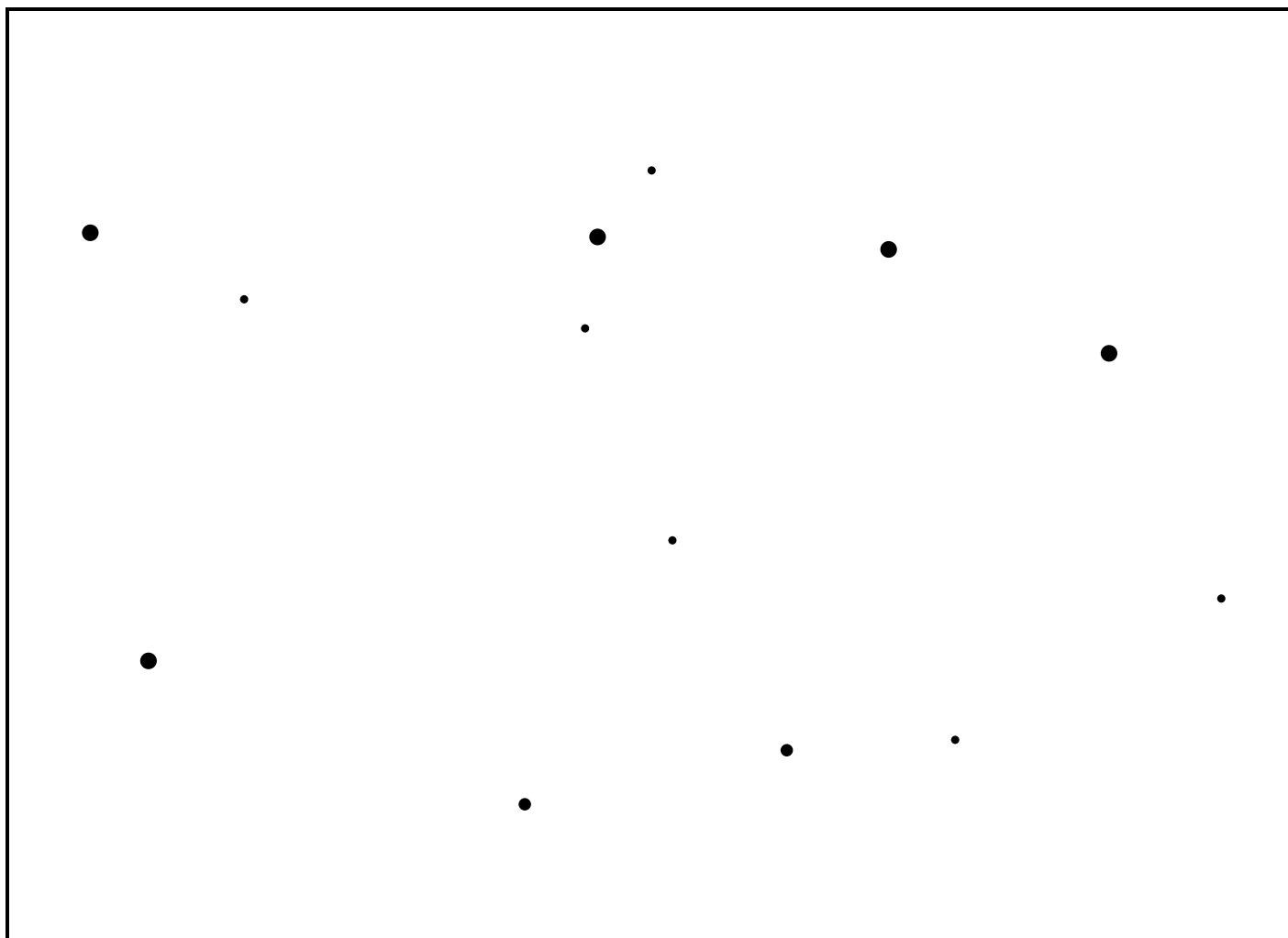
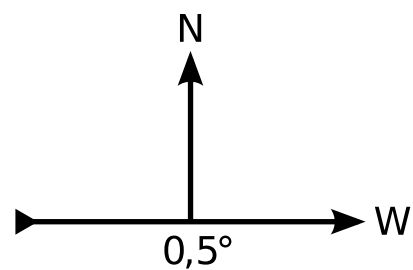
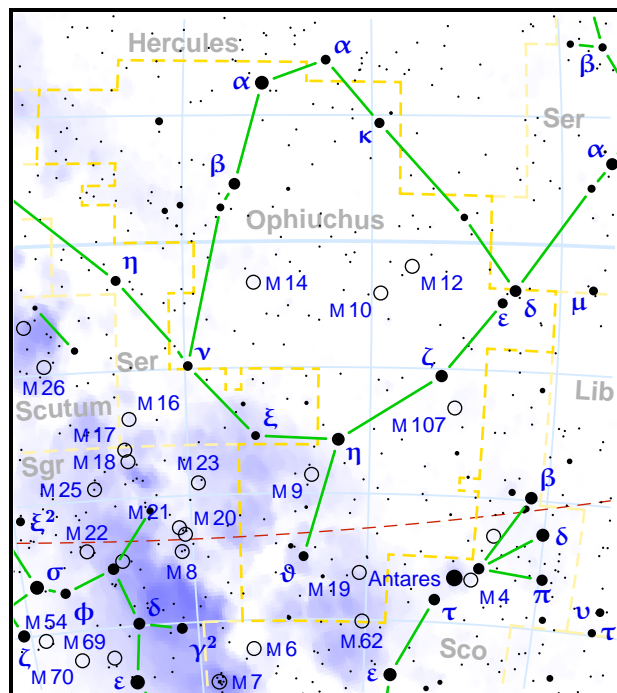
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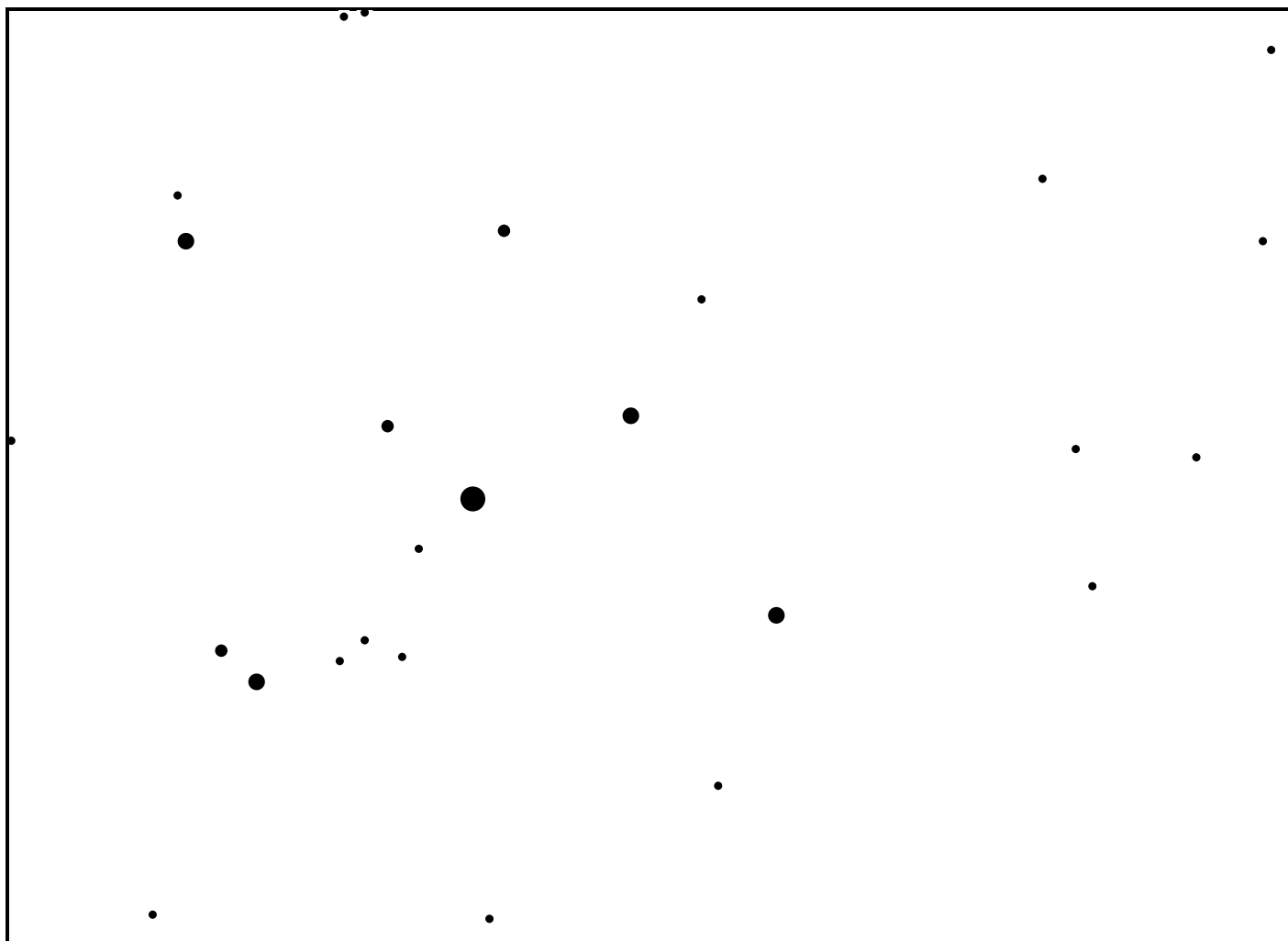
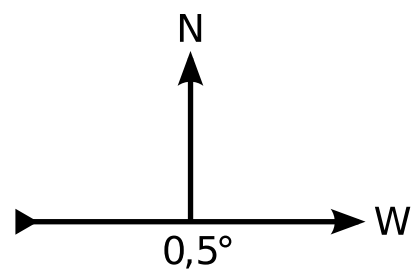
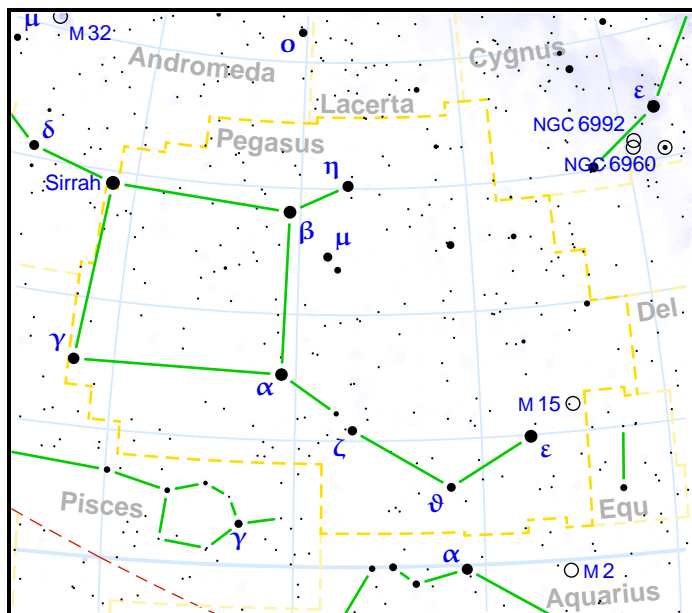
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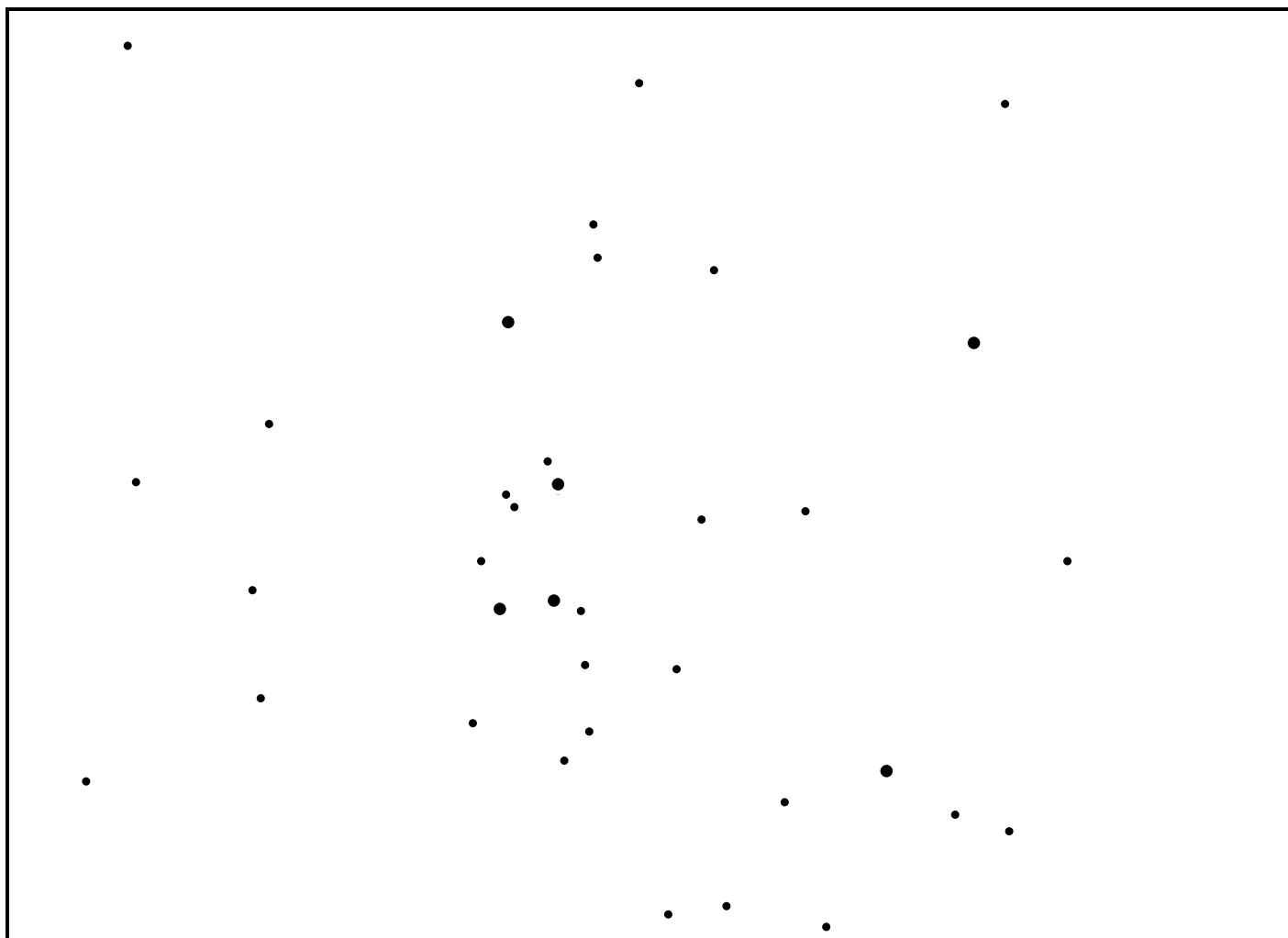
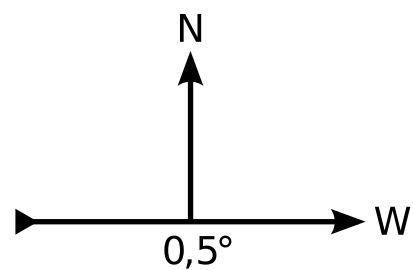
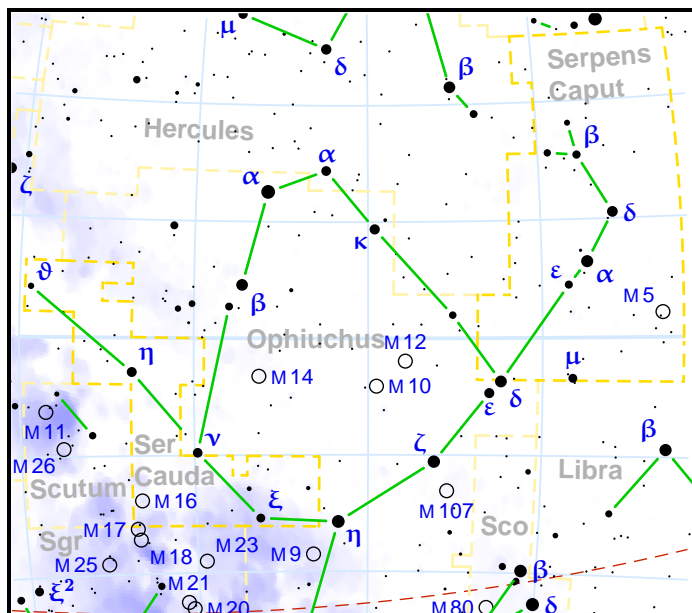
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# M 15

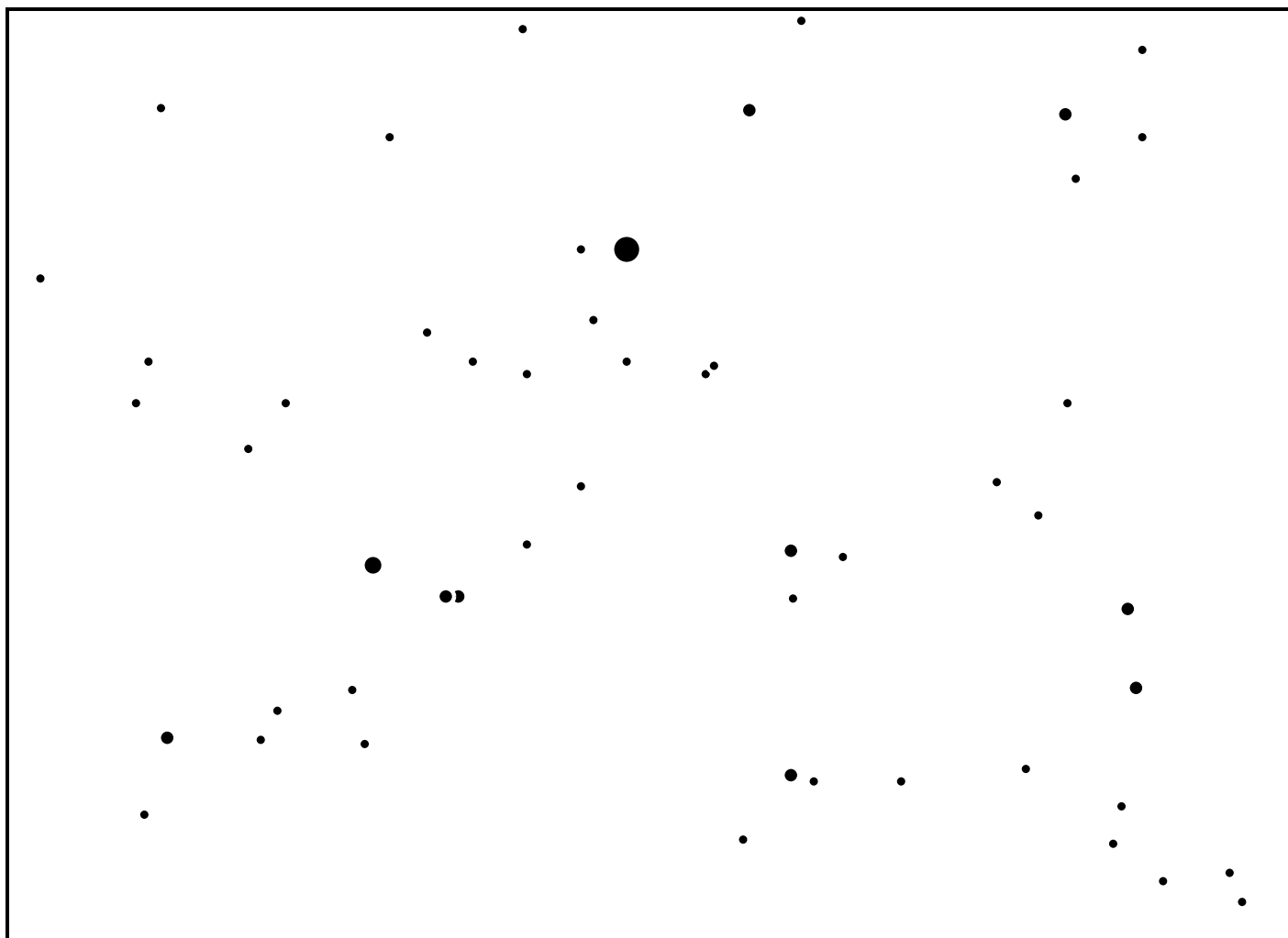
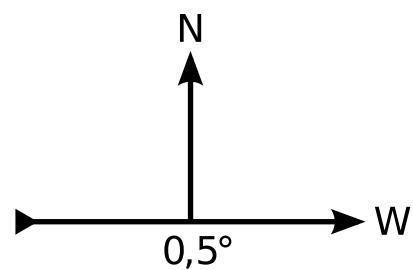
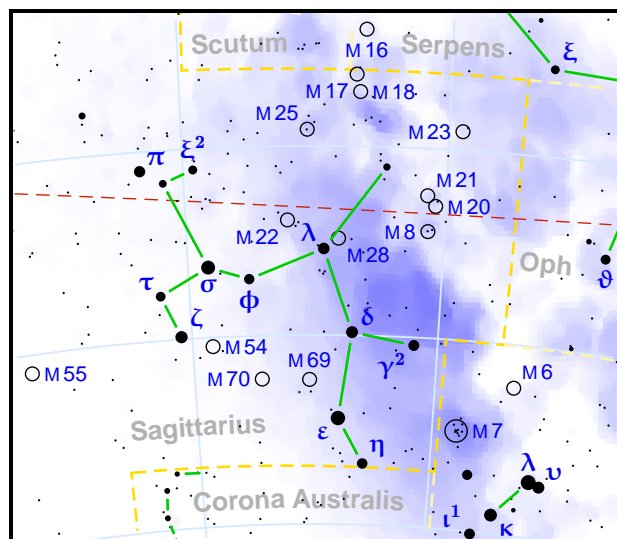


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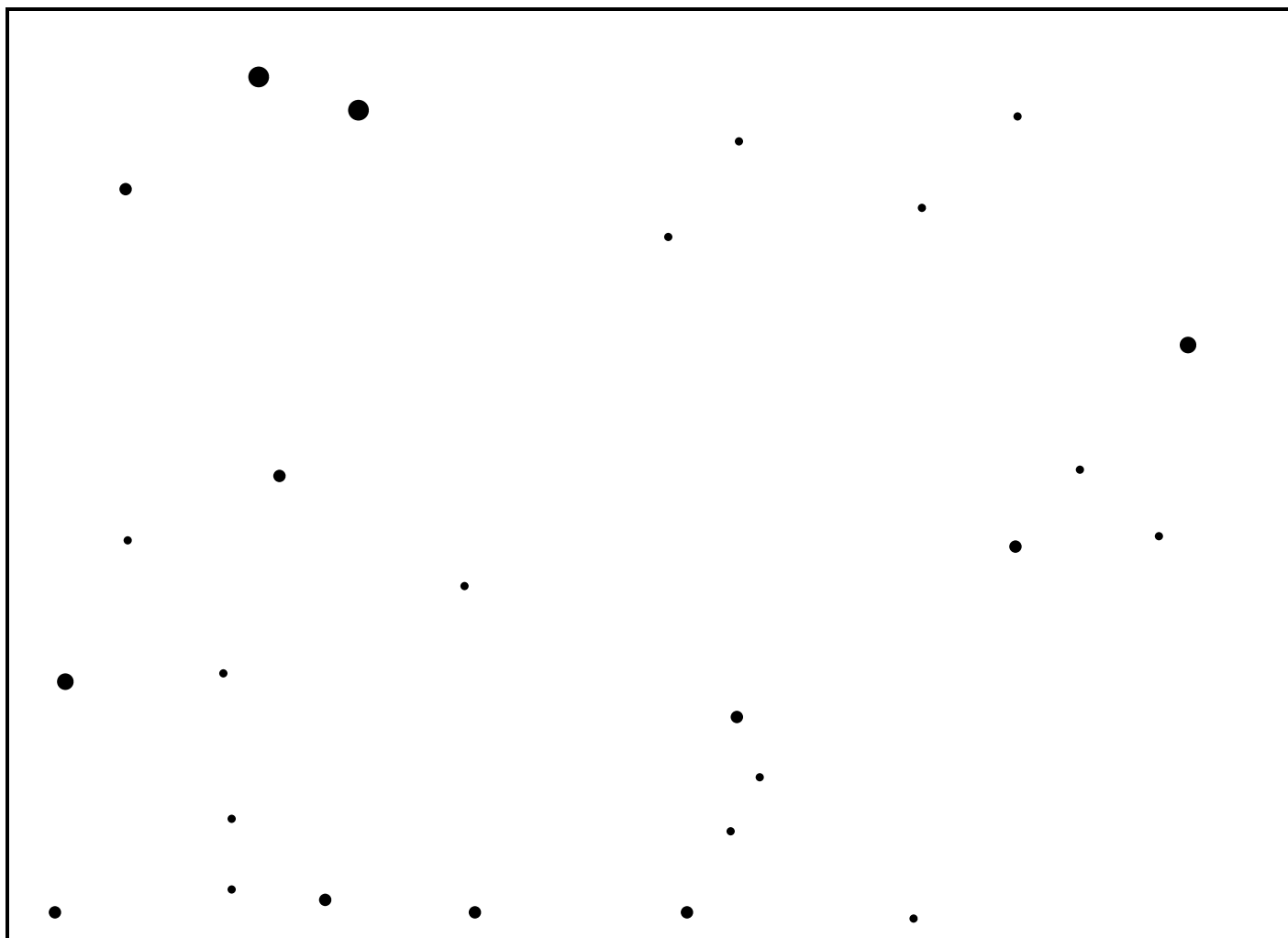
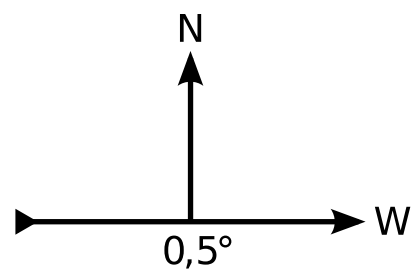
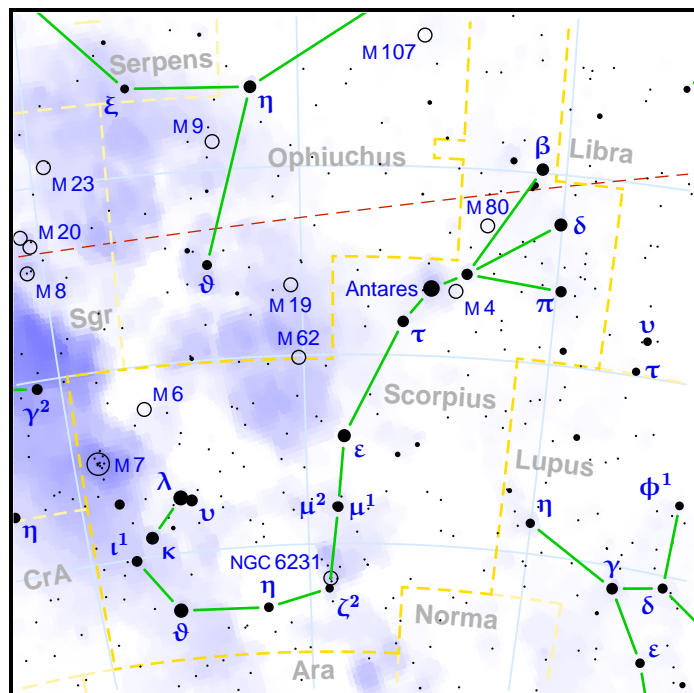




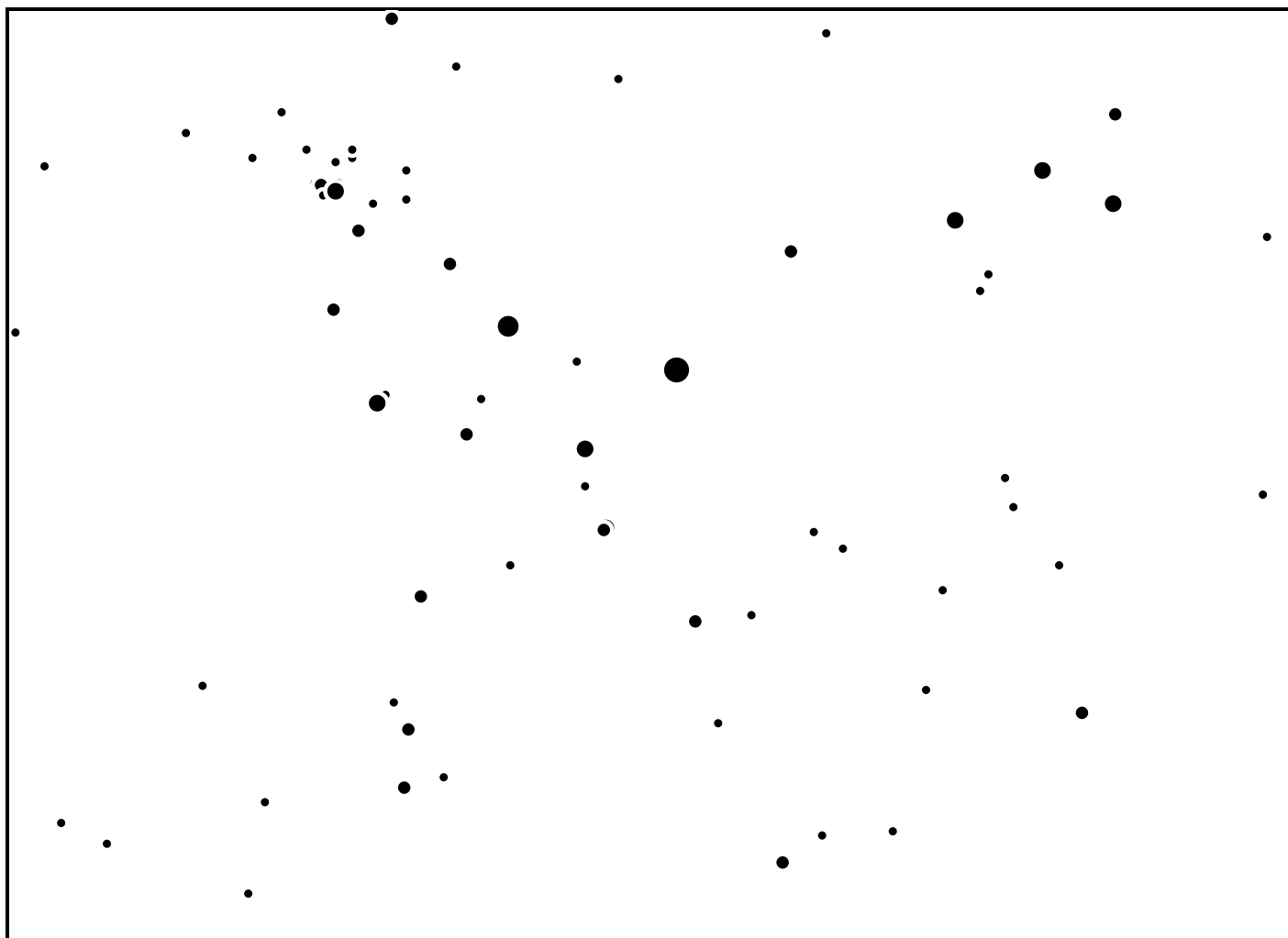
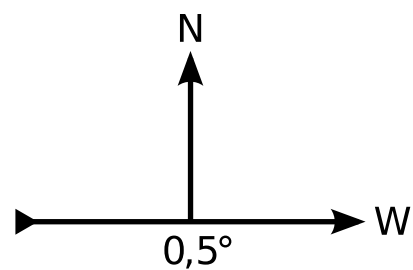
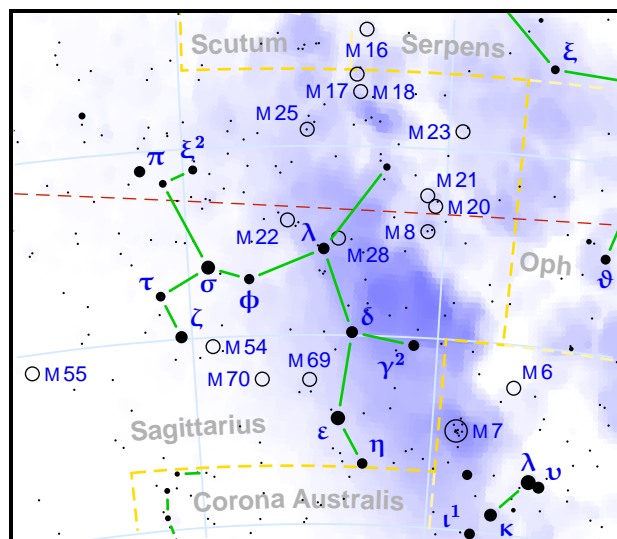
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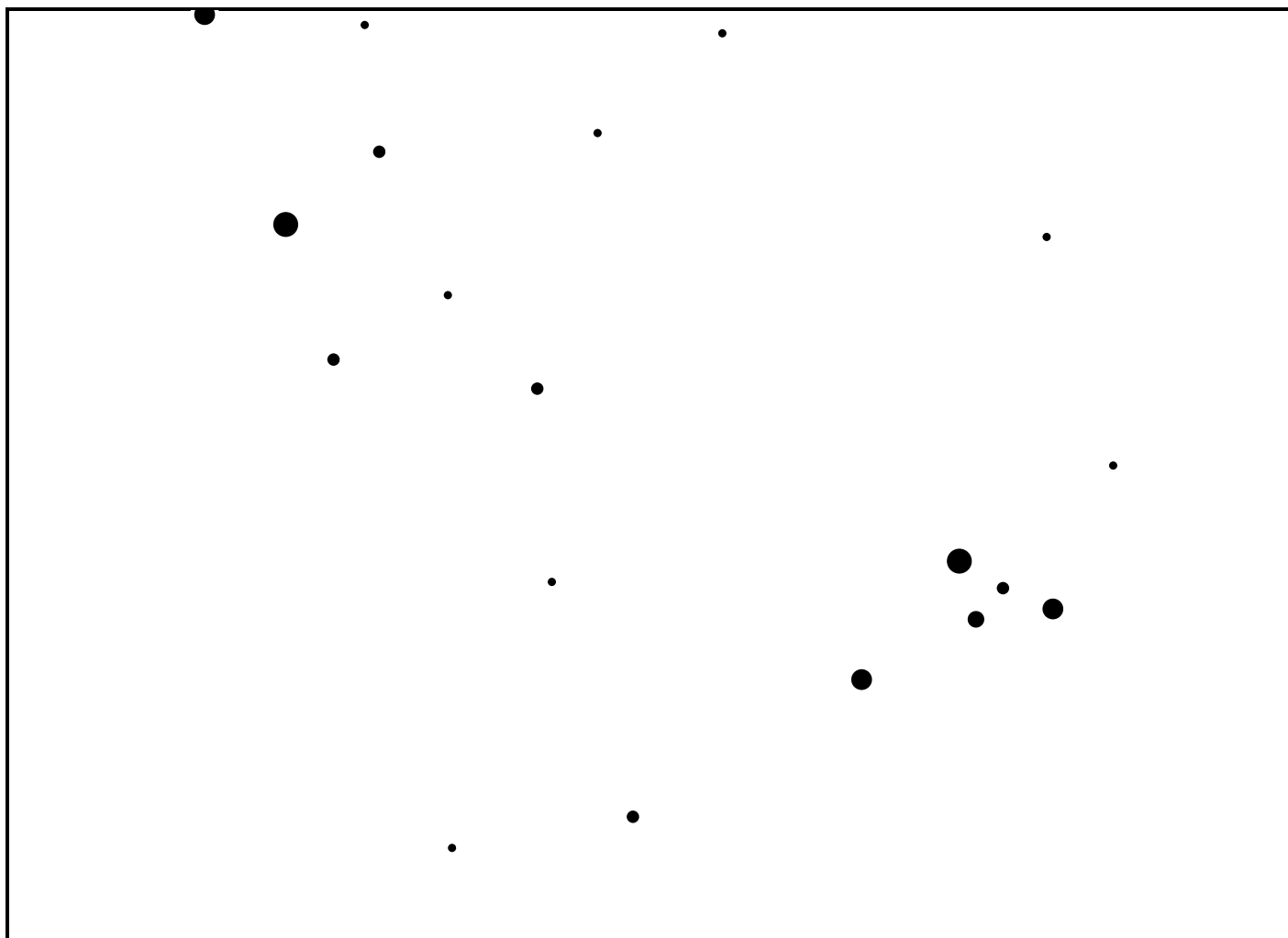
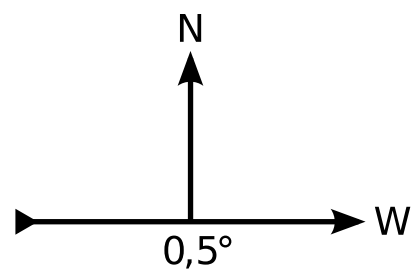
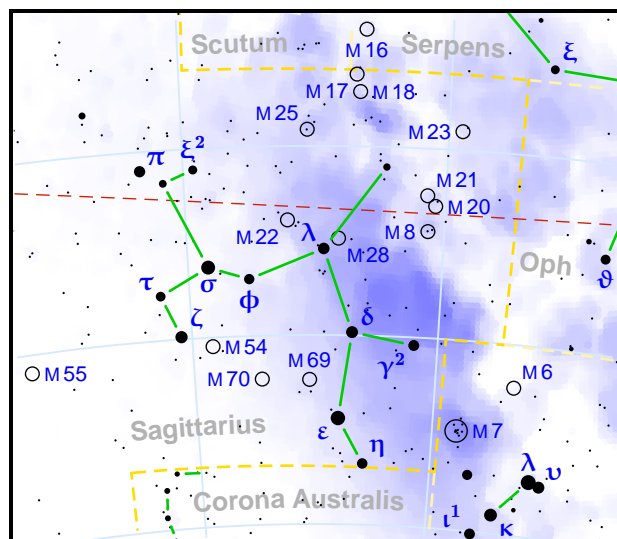
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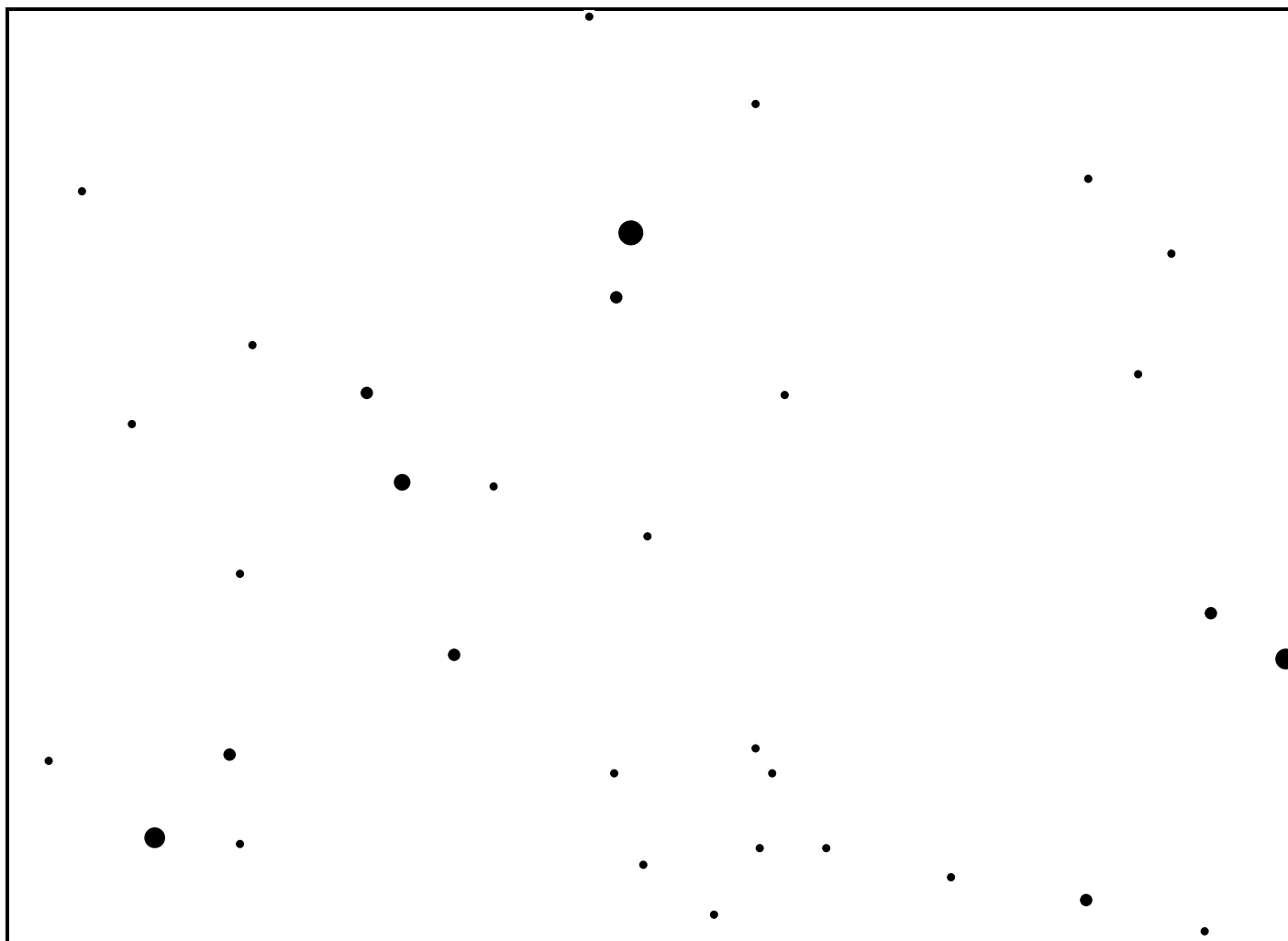
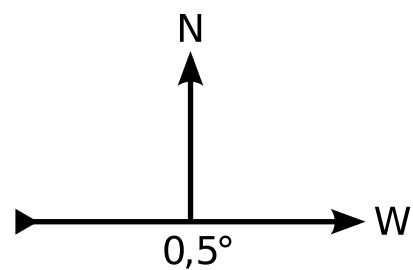
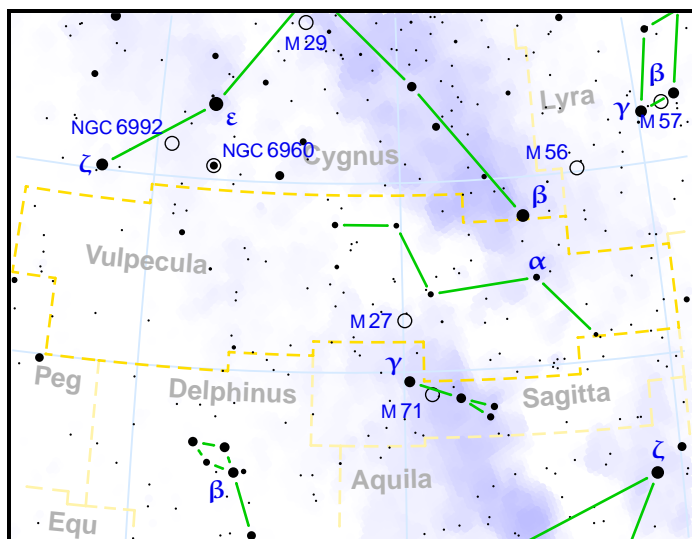
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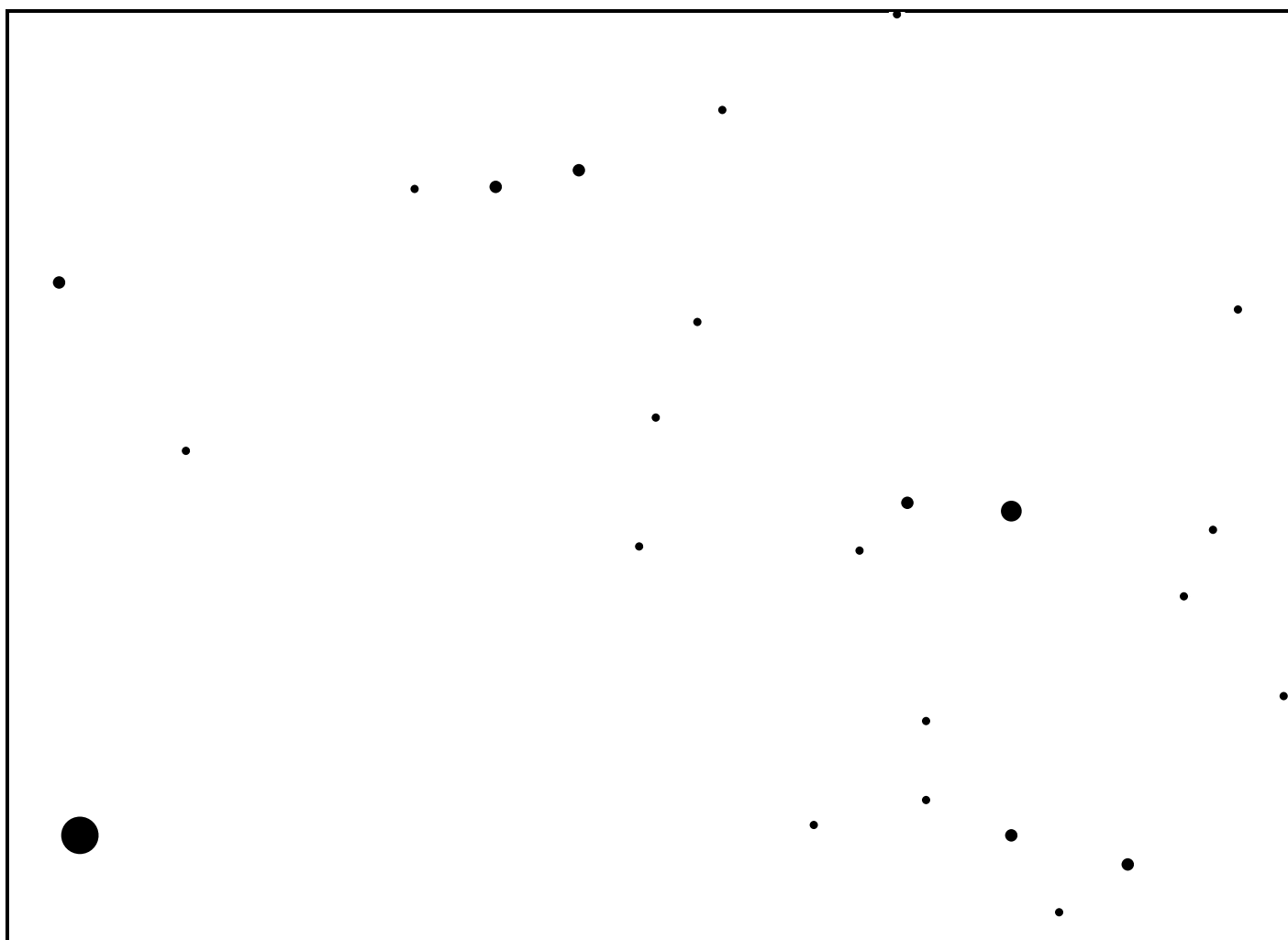
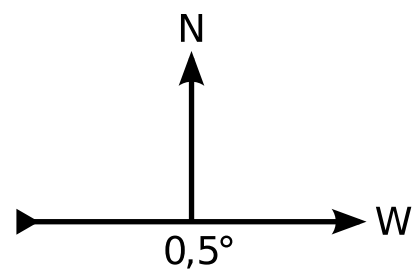
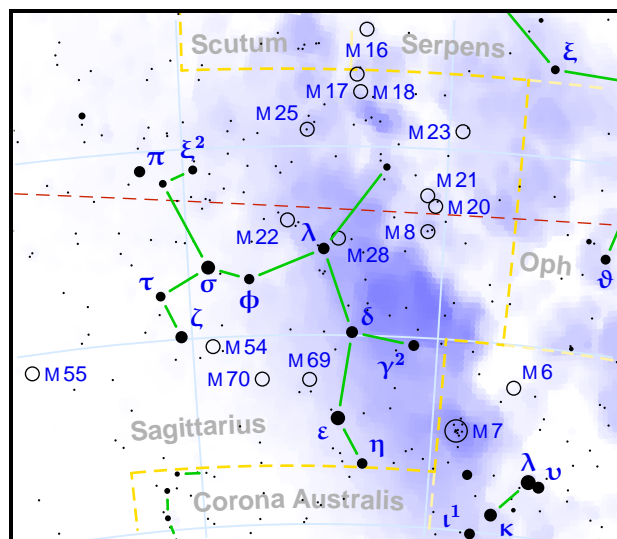
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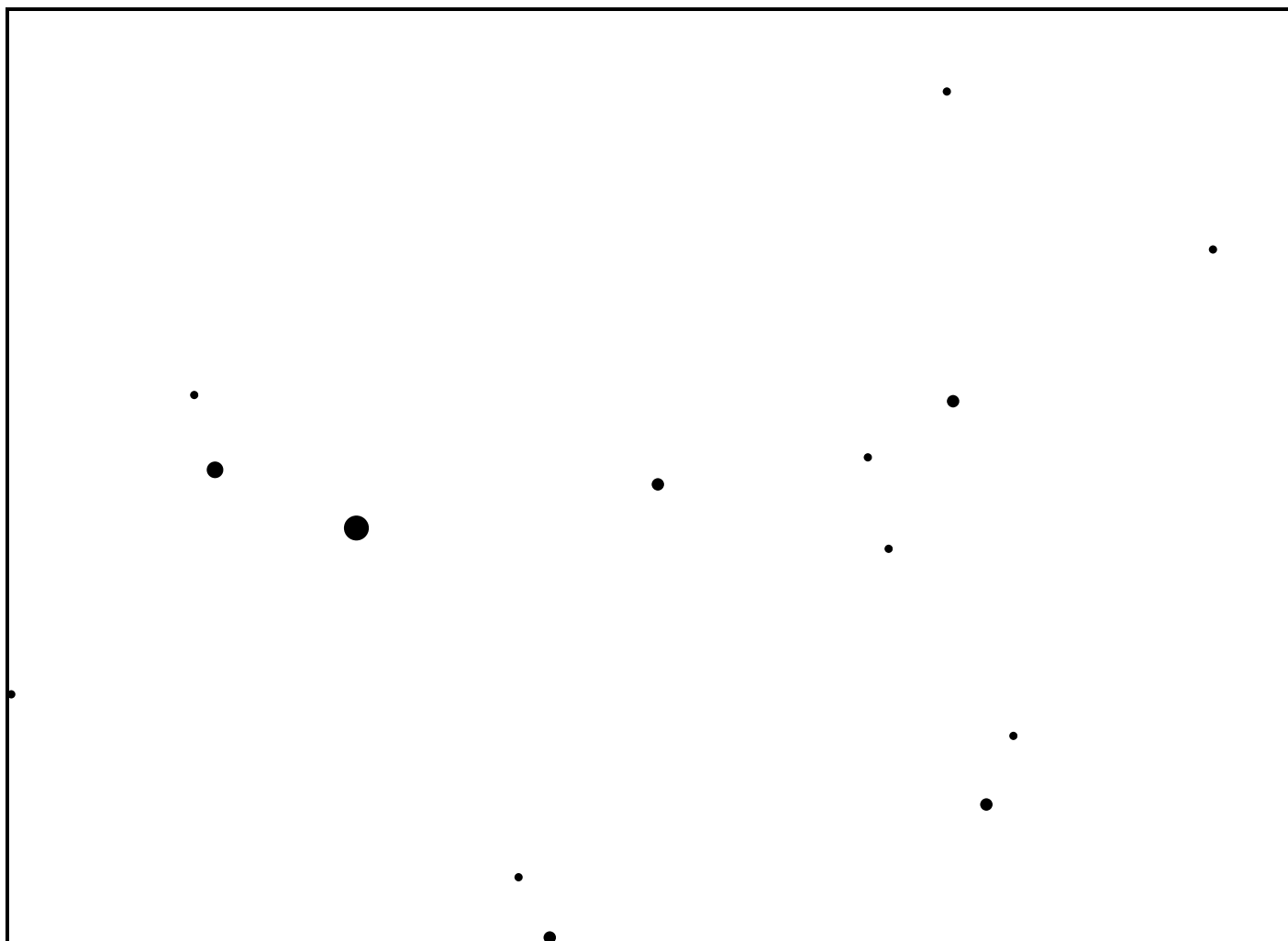
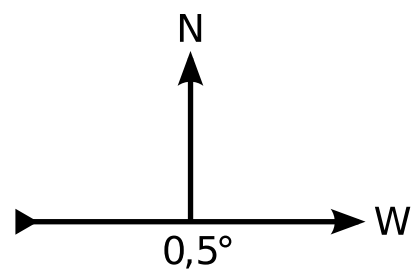
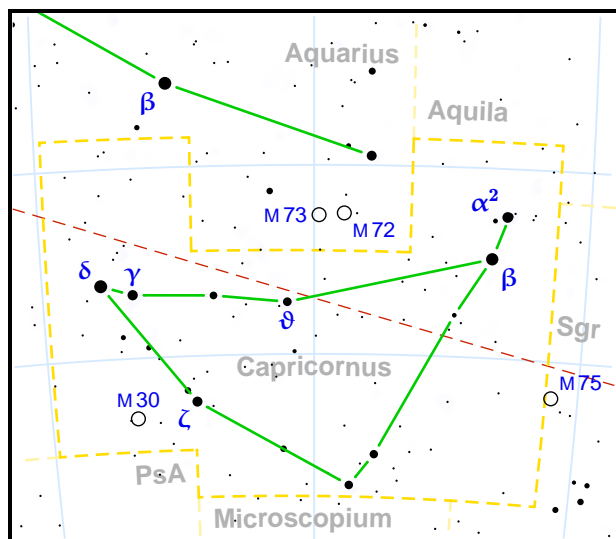
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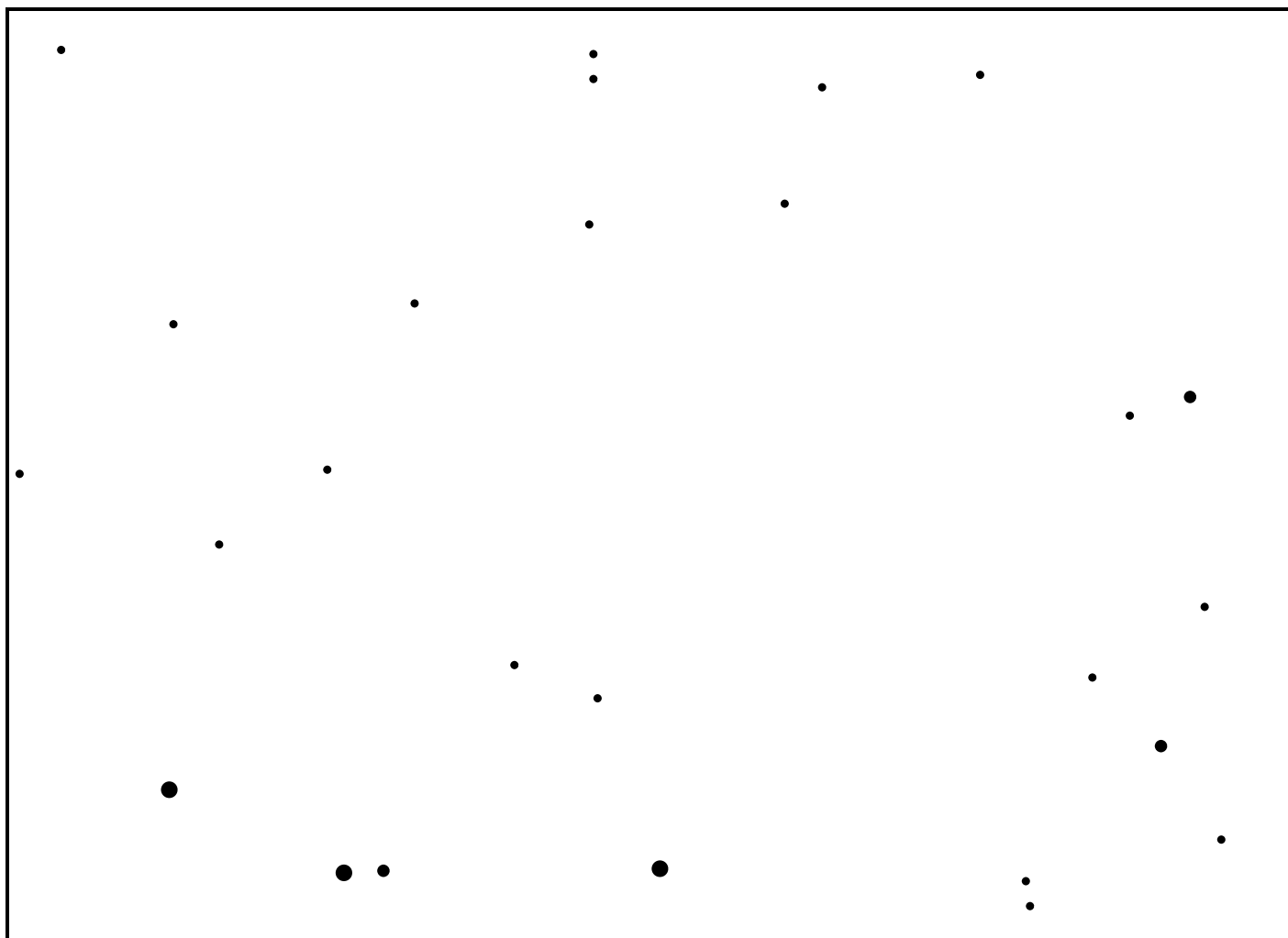
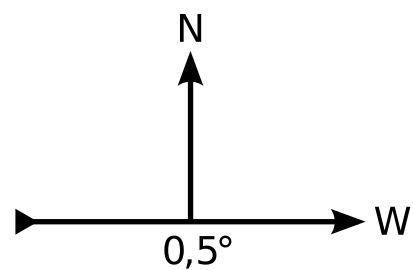
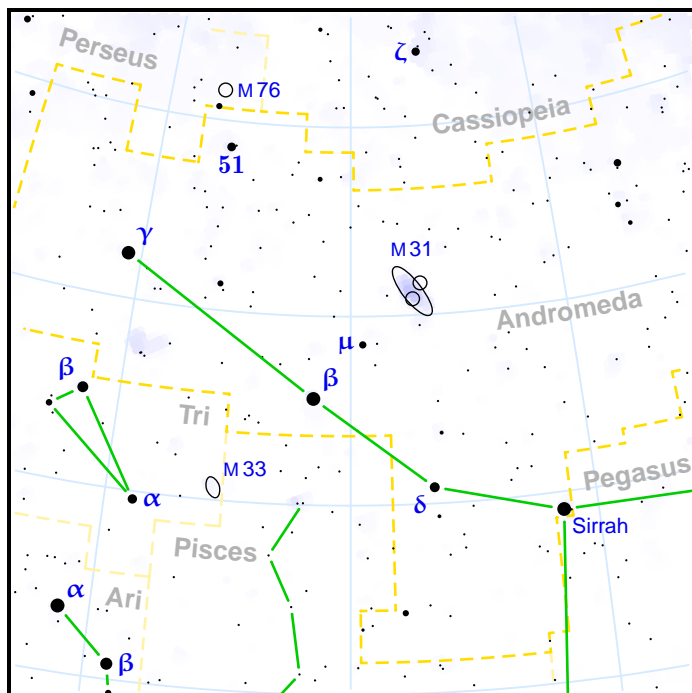
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# M 30

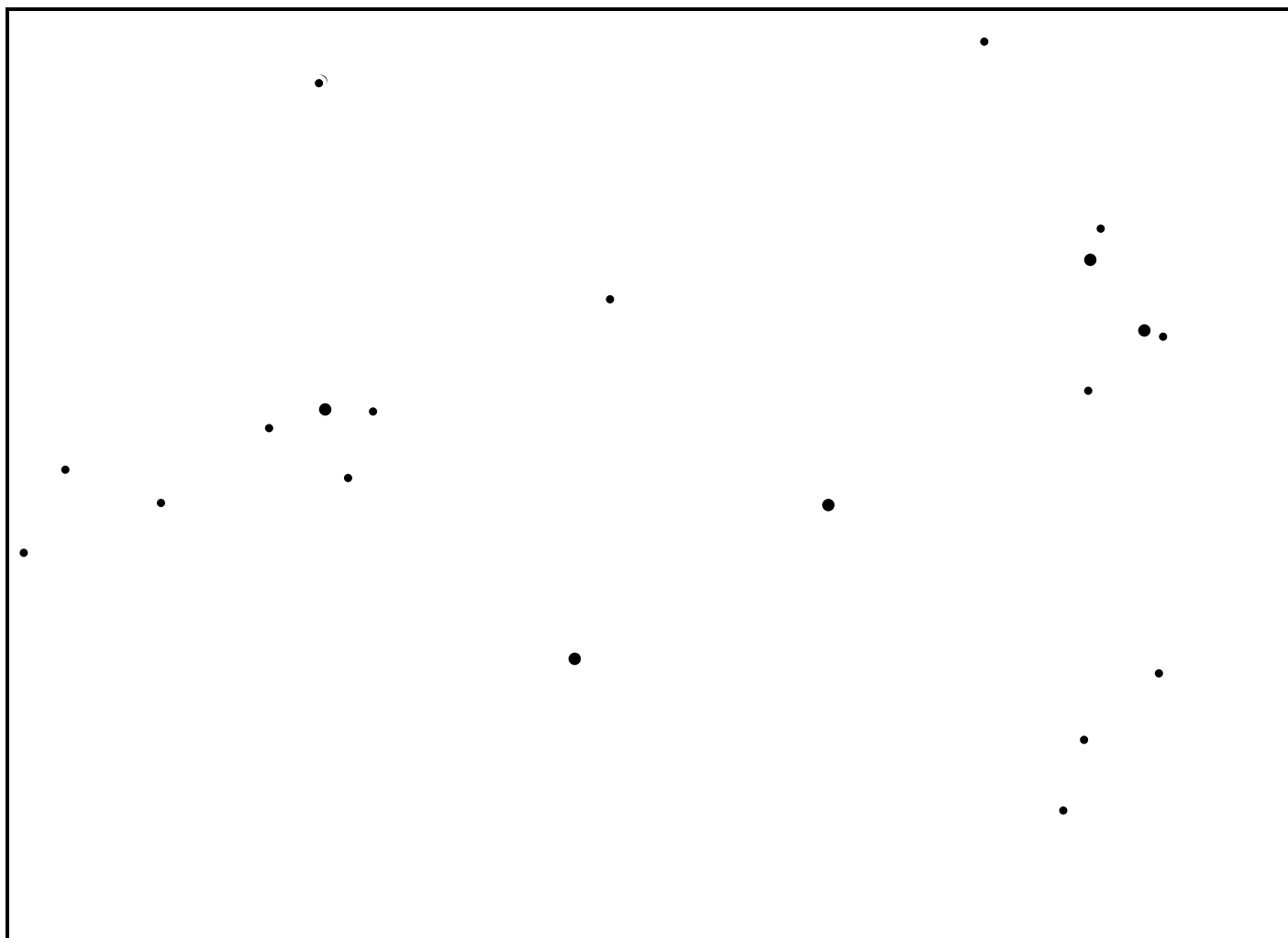
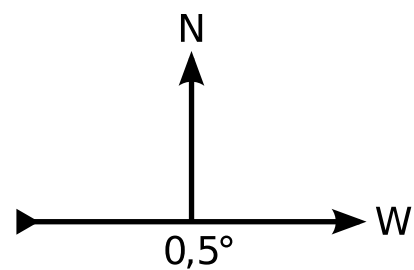
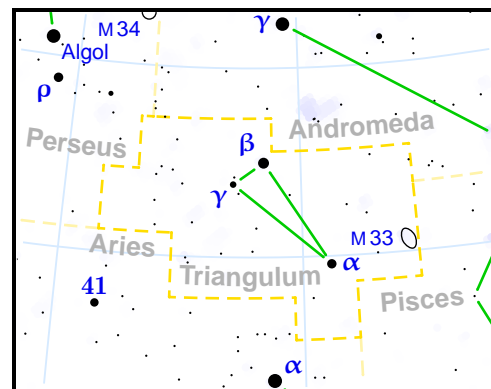


M 31  
M 32  
M 110

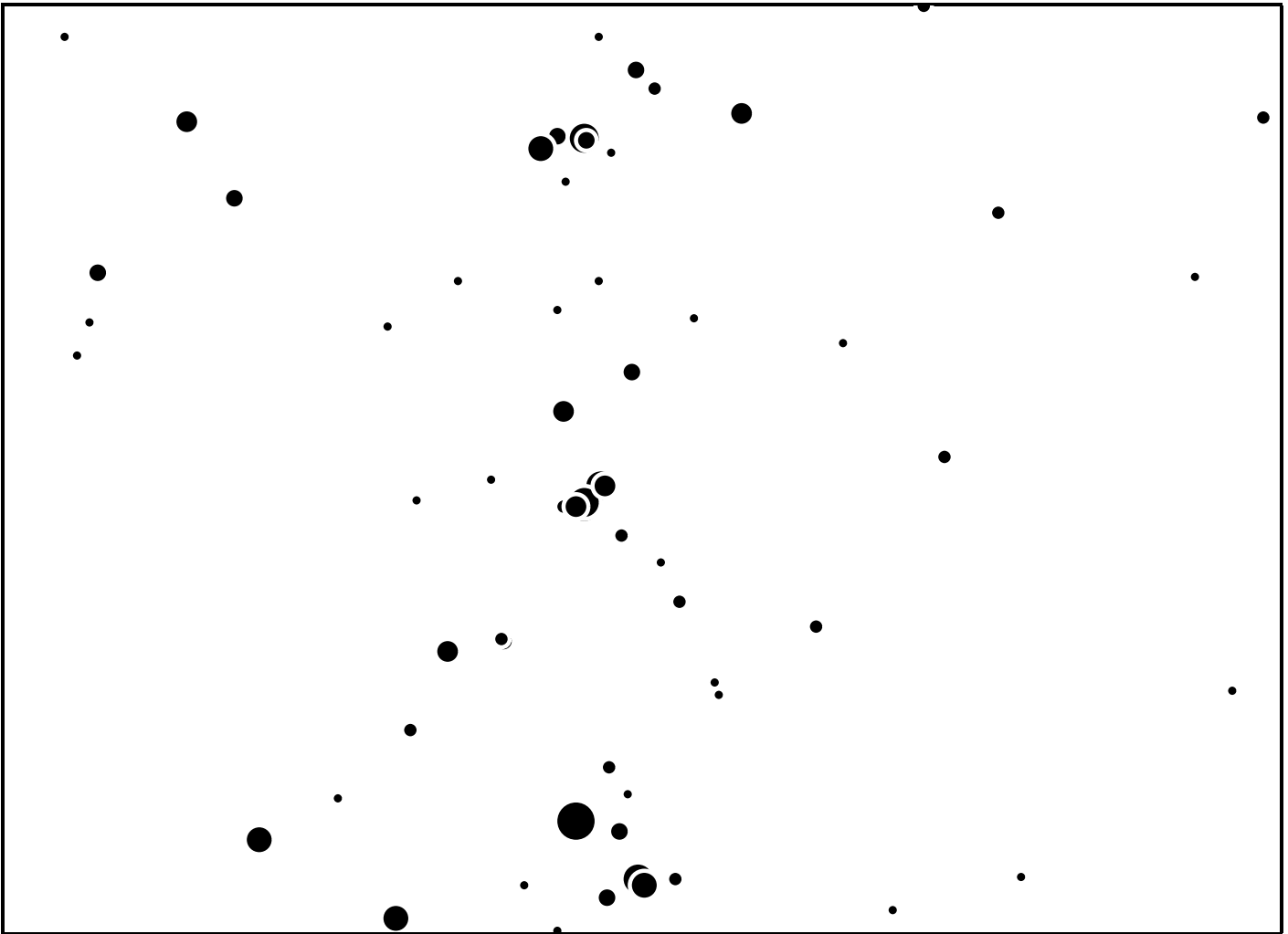
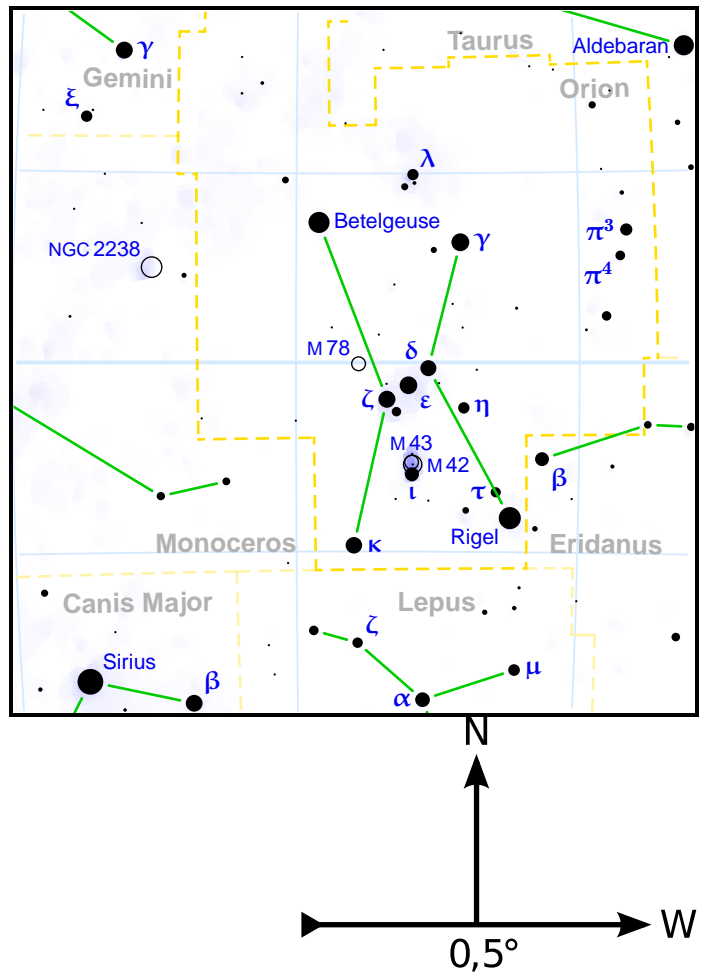




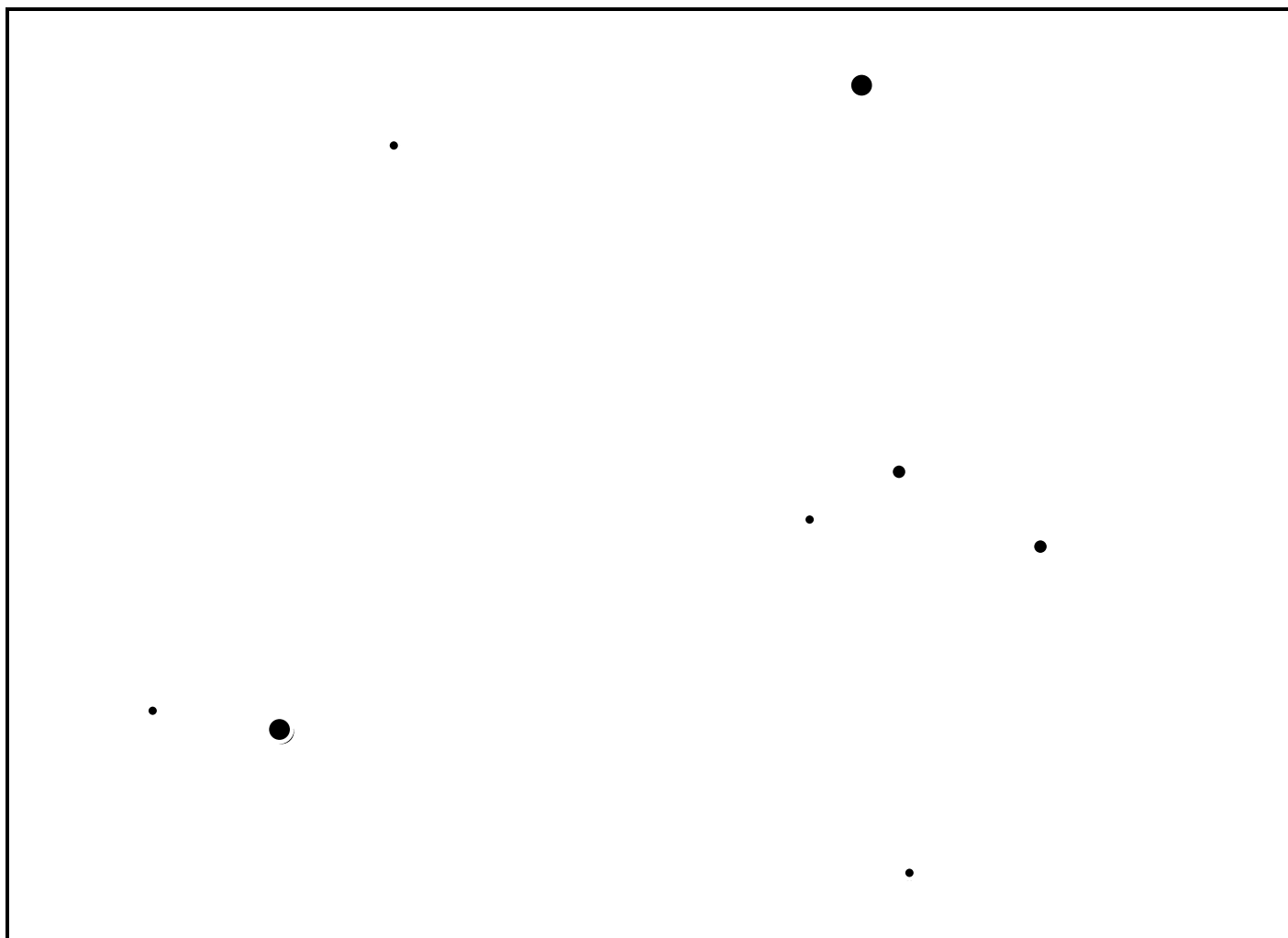
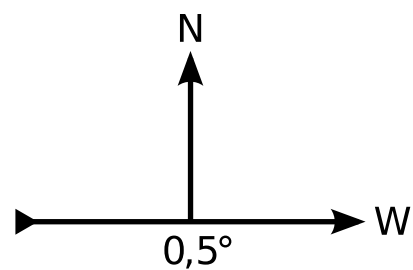
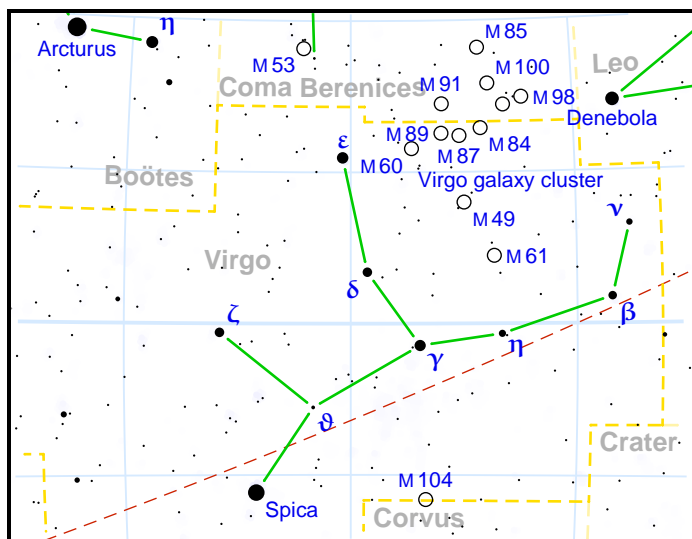
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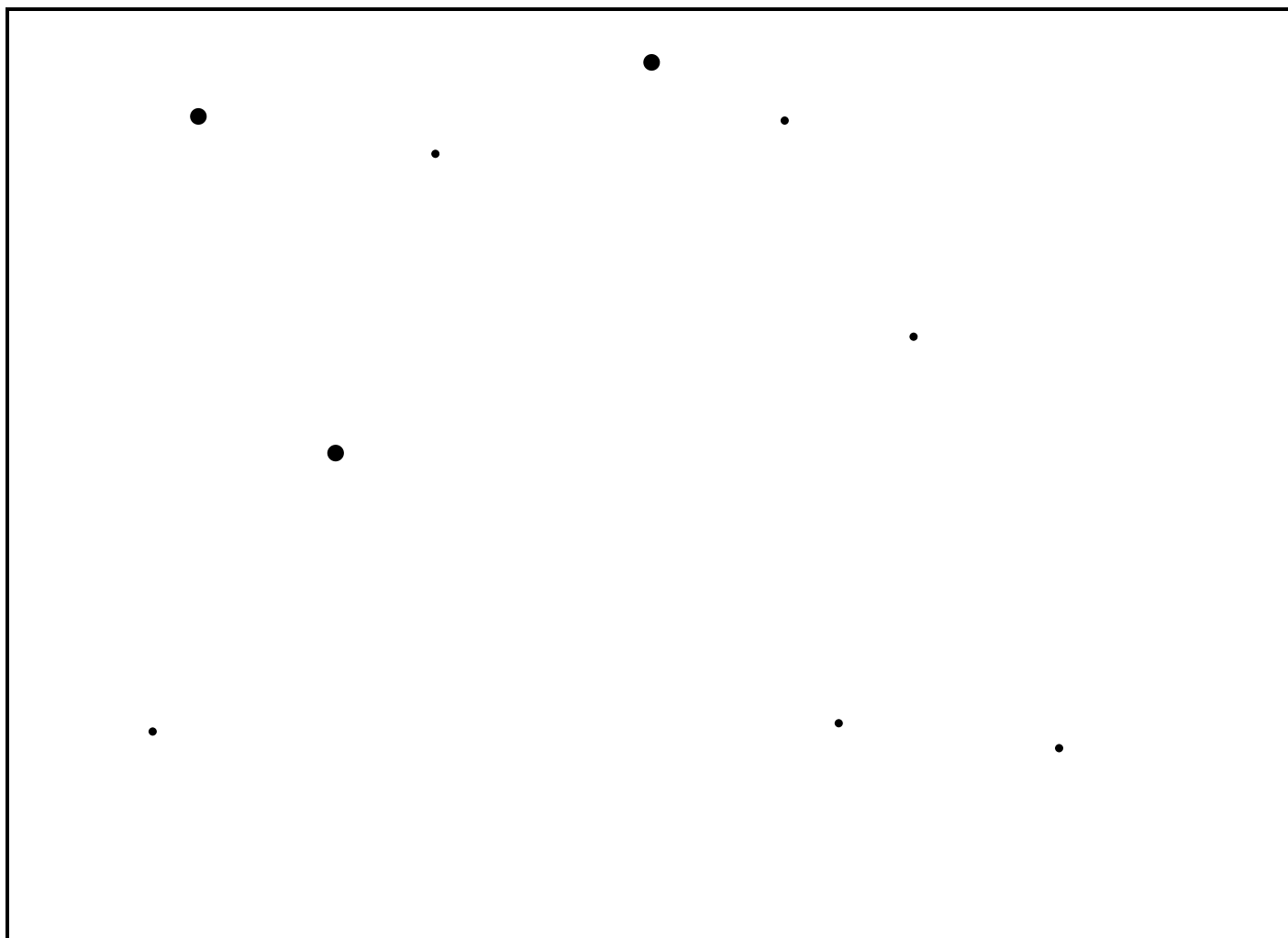
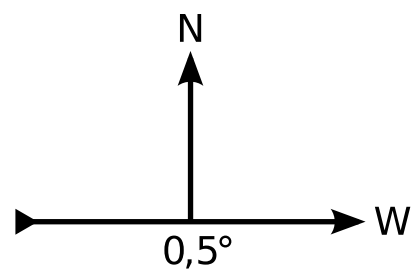
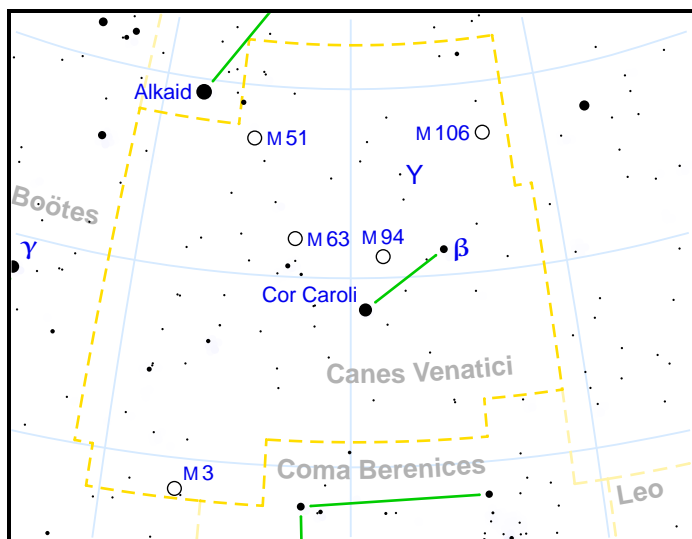
# M 42 M 43



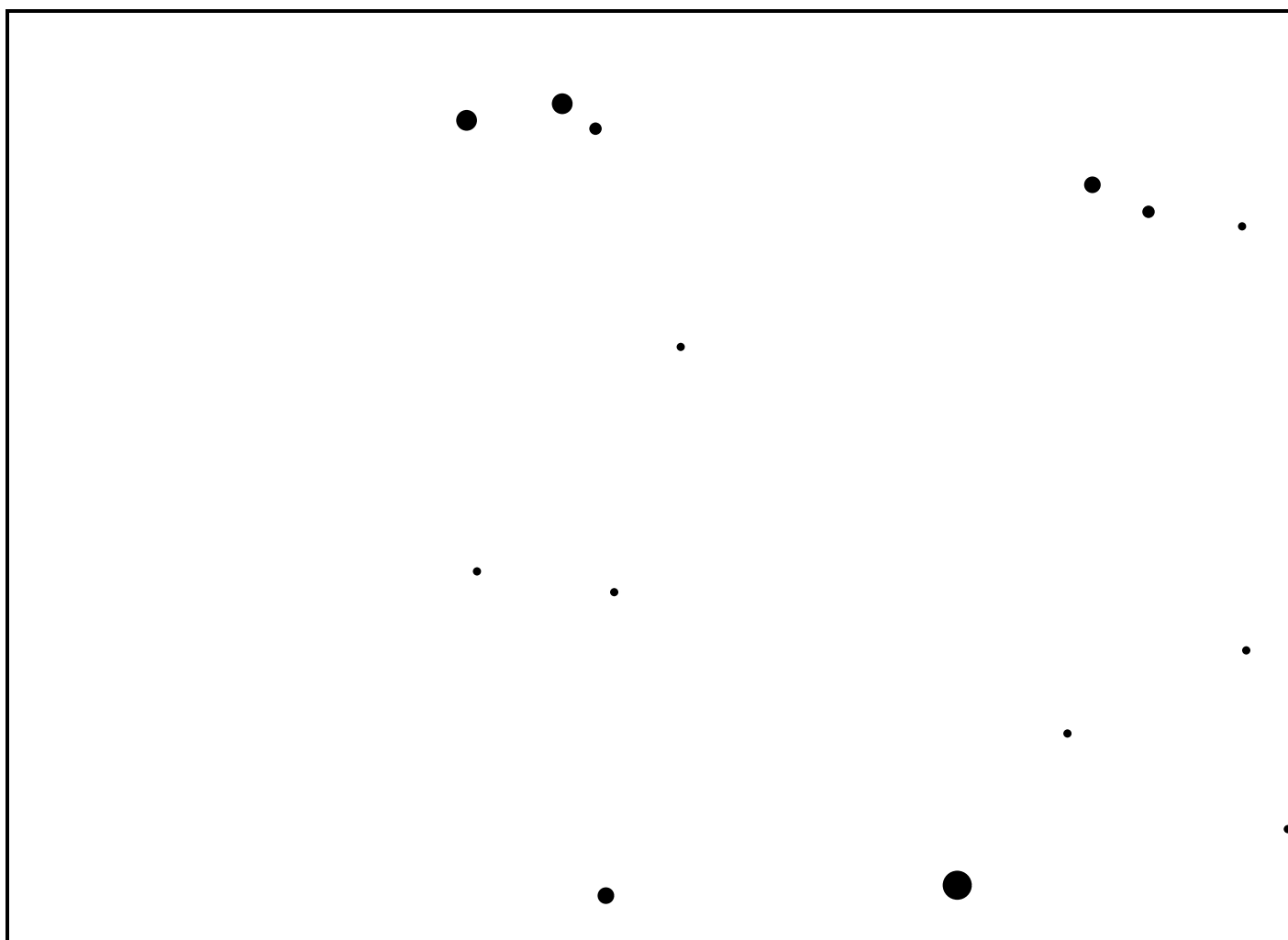
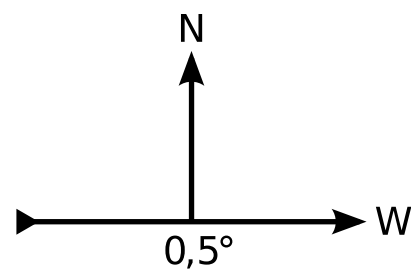
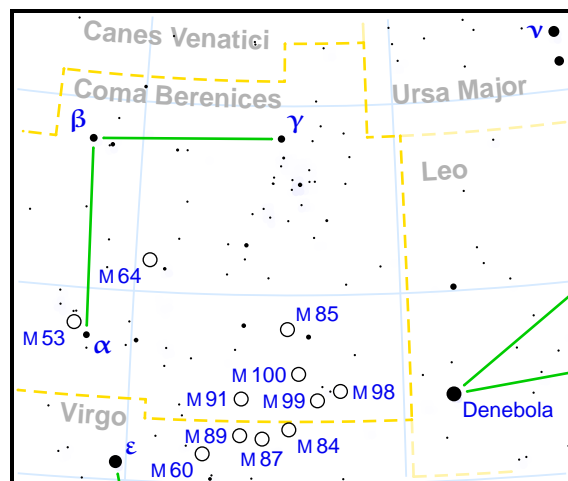
# M 49



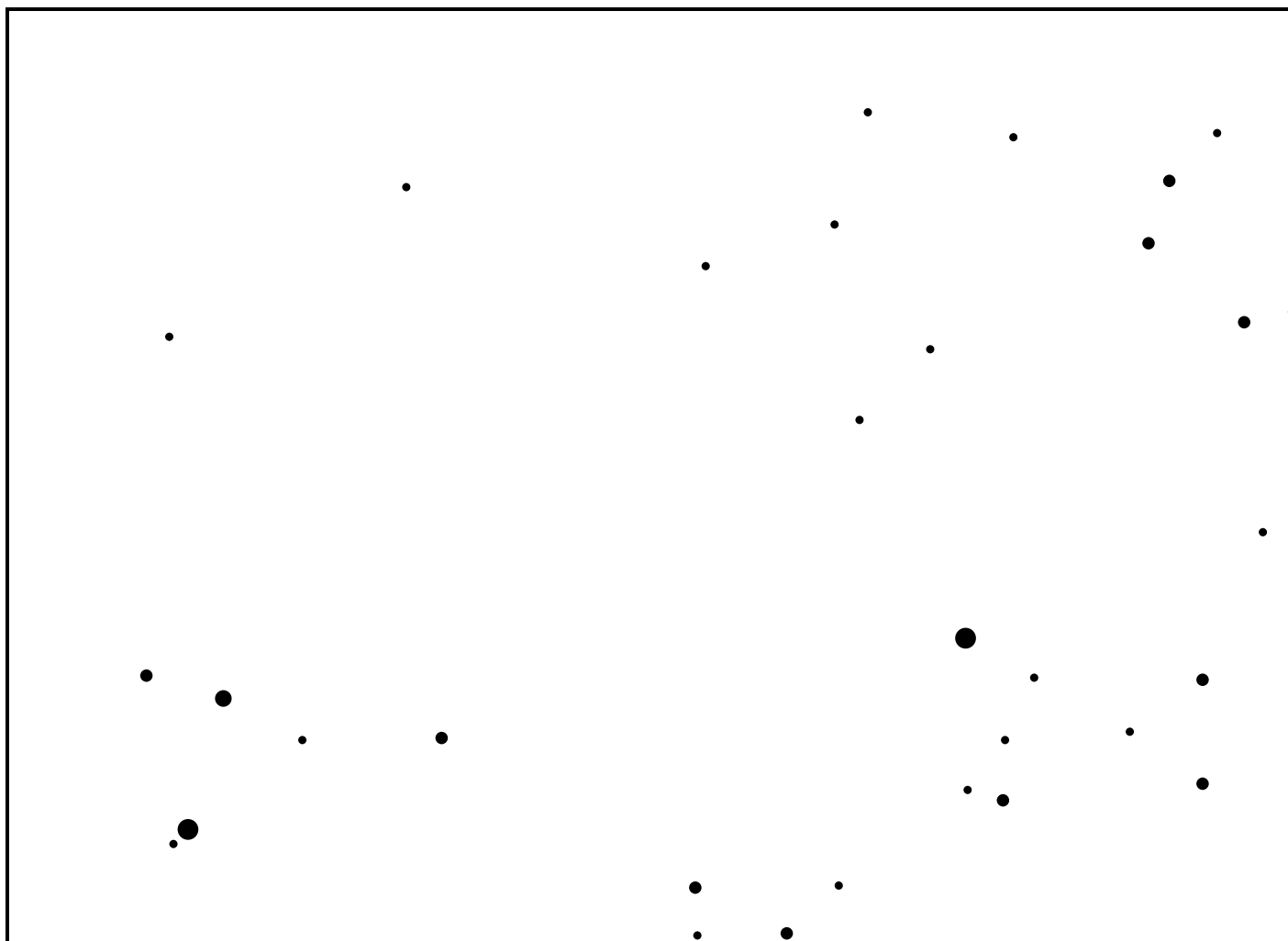
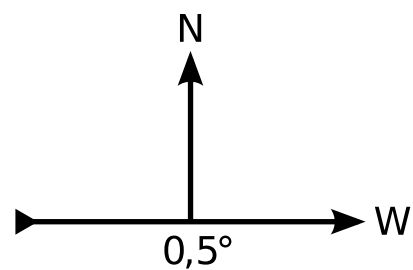
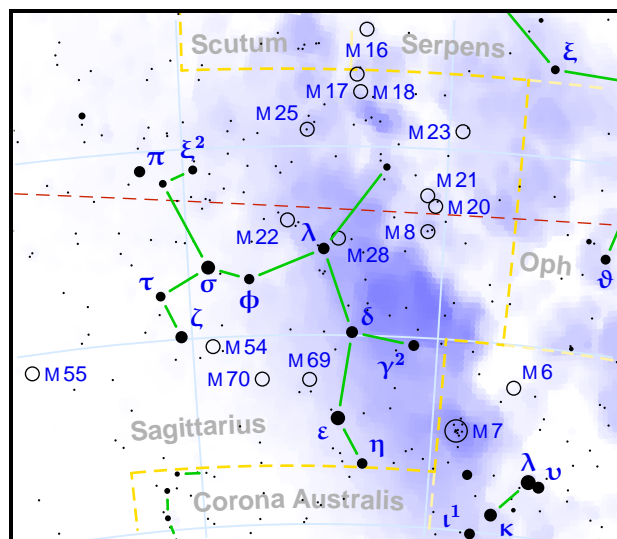
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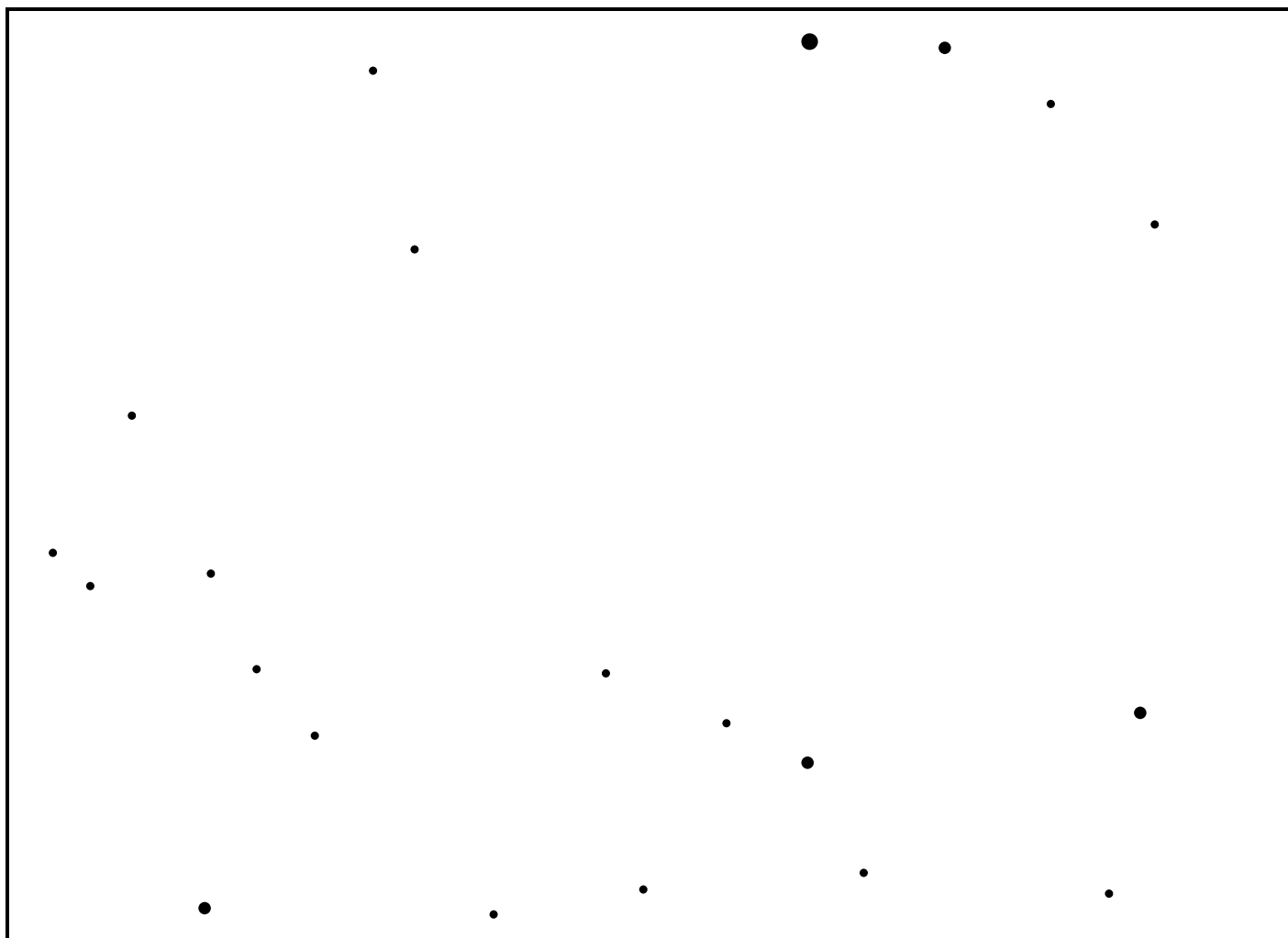
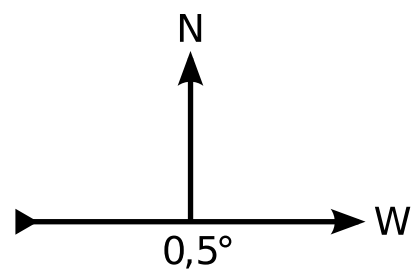
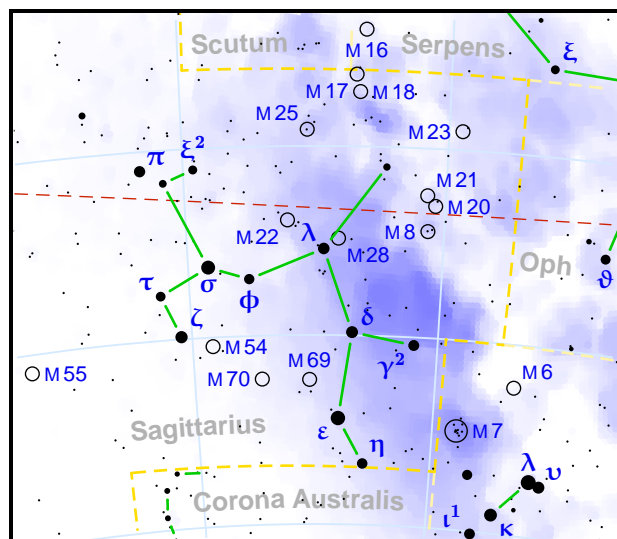
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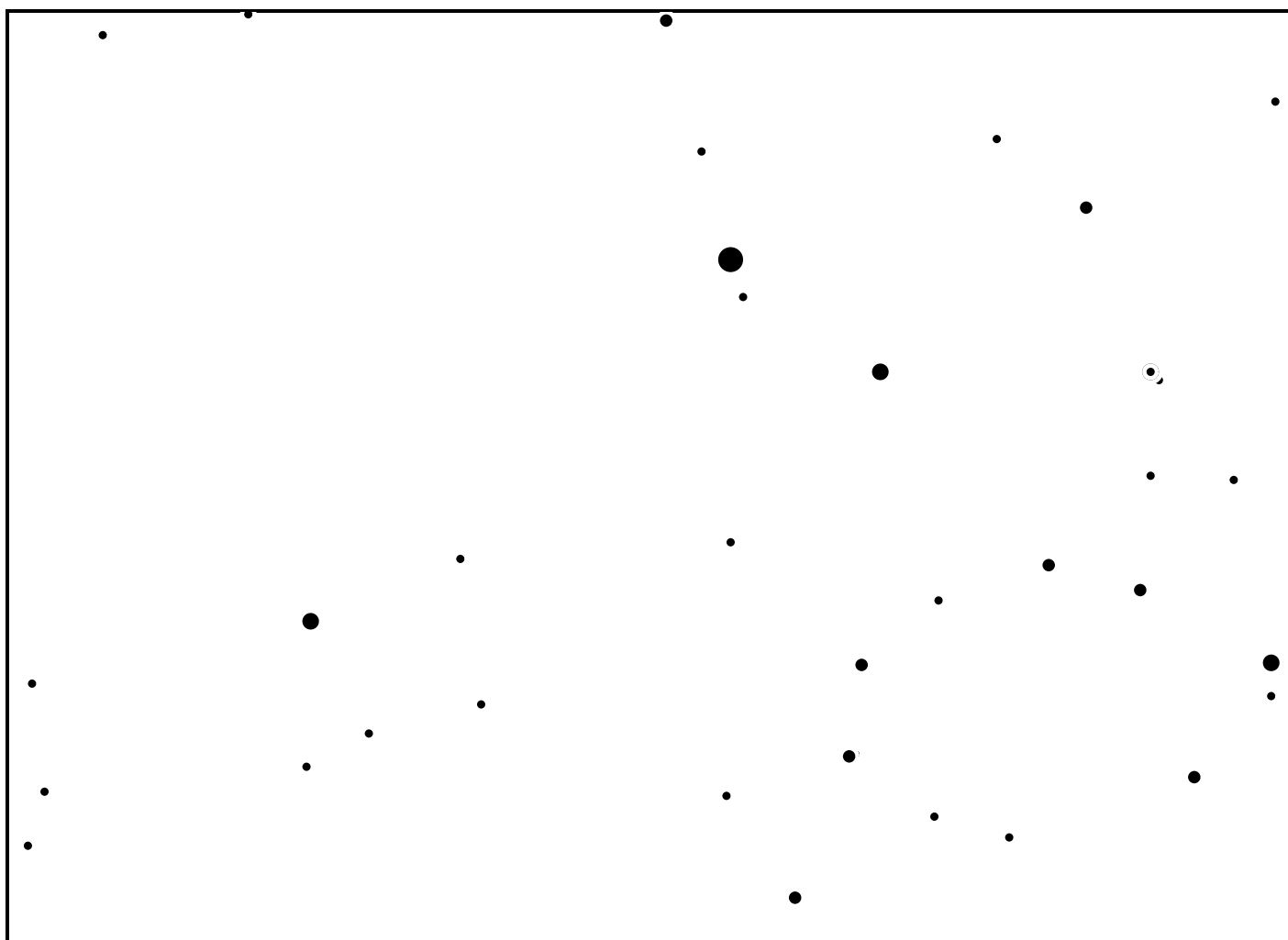
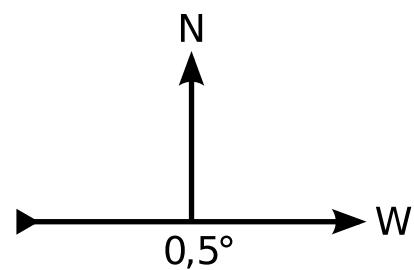
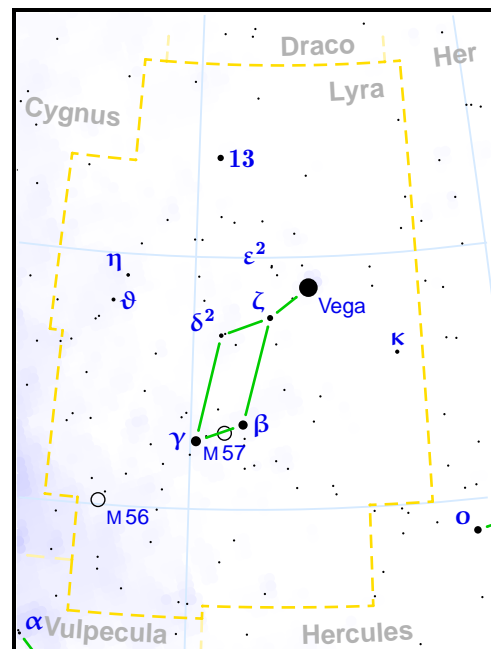
# M 54



# M 55

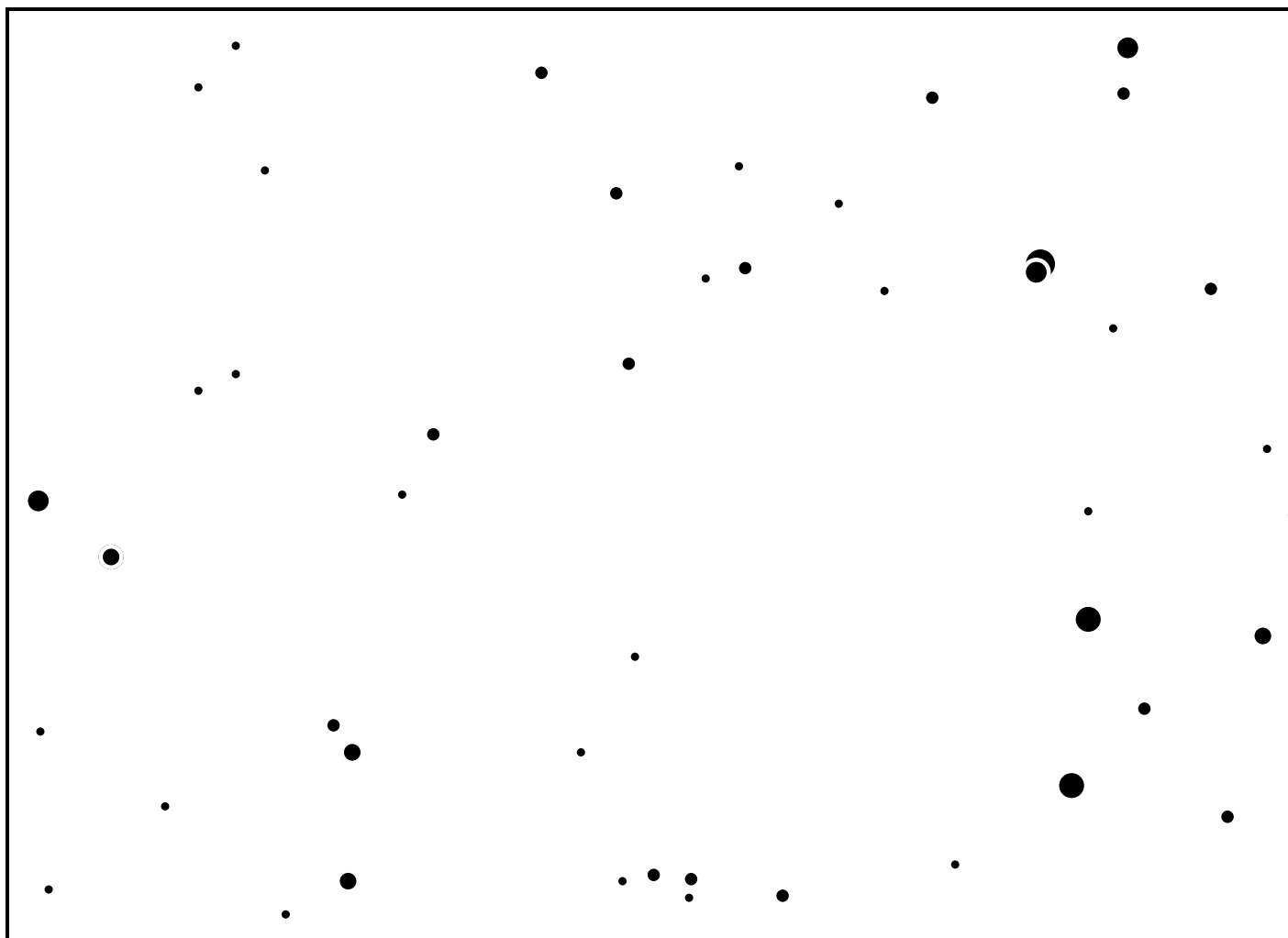
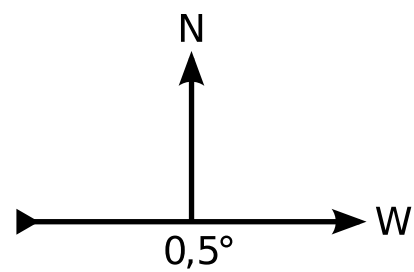
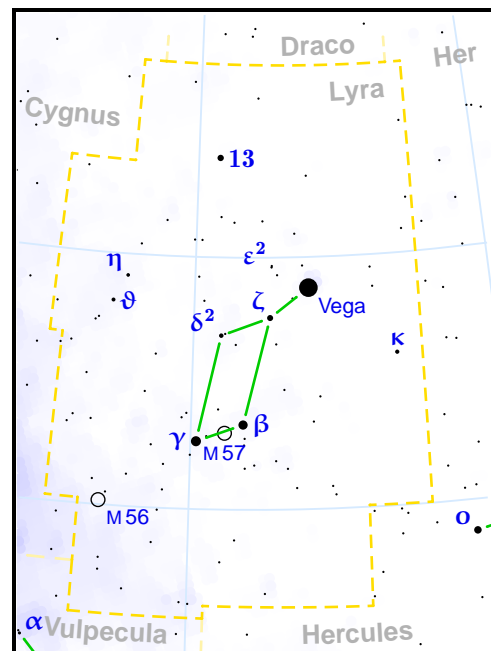


# M 56

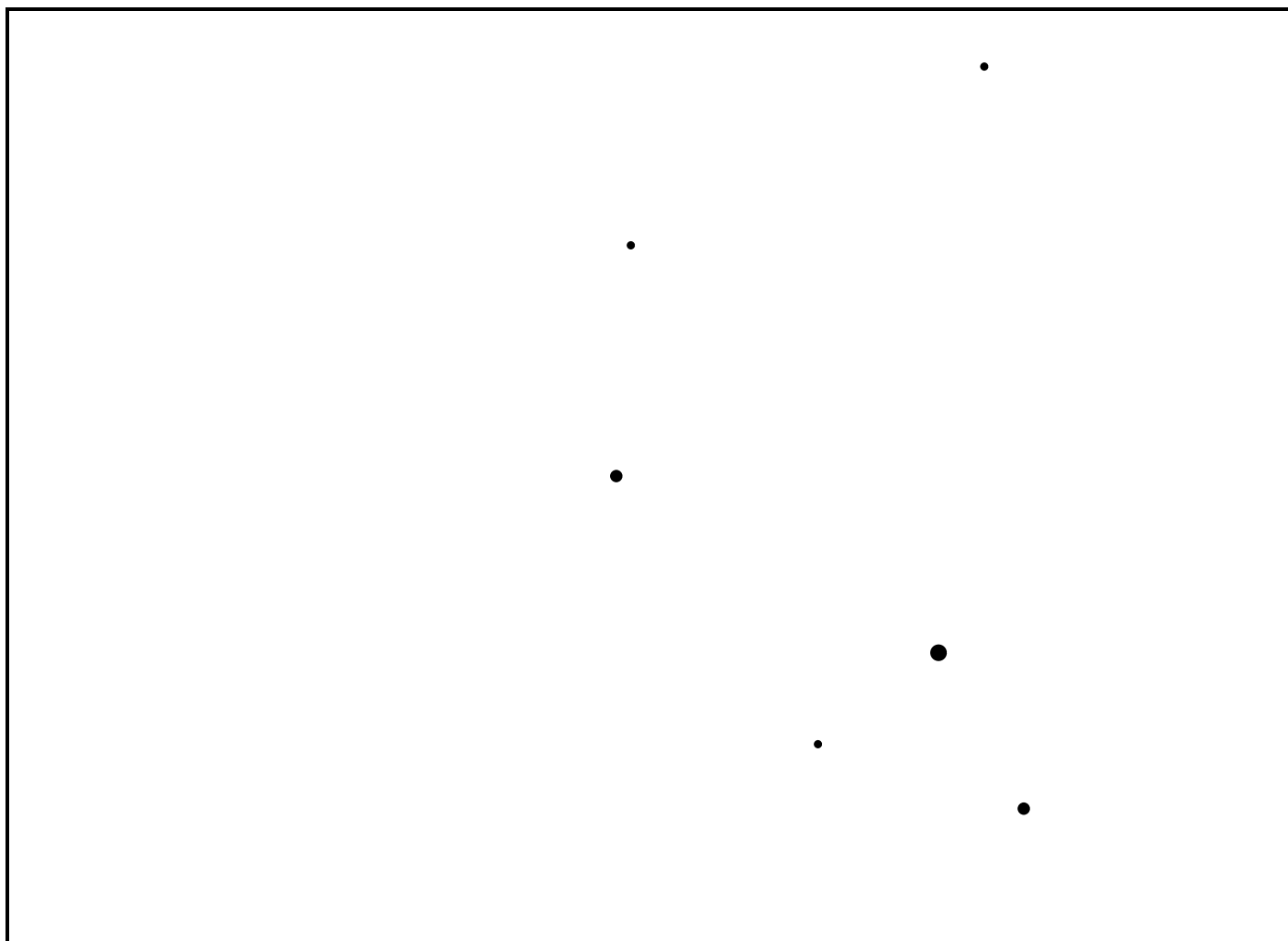
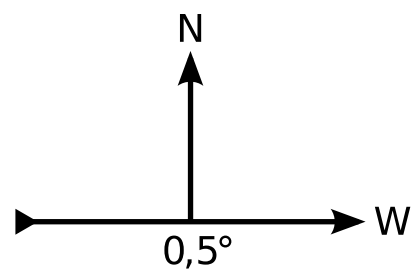
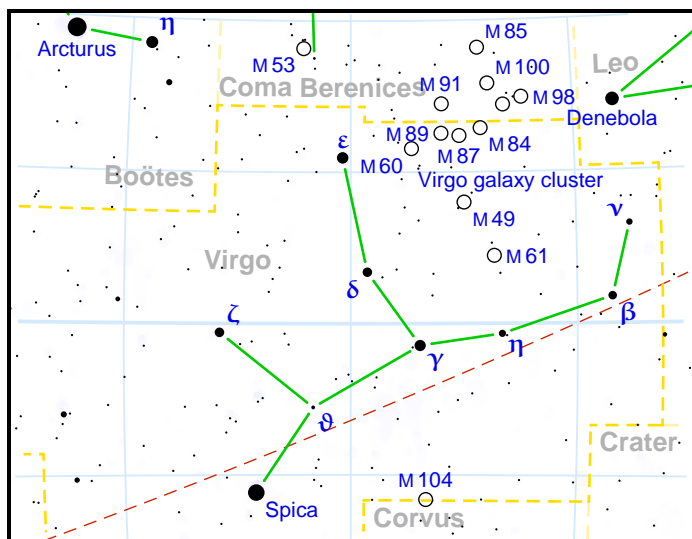




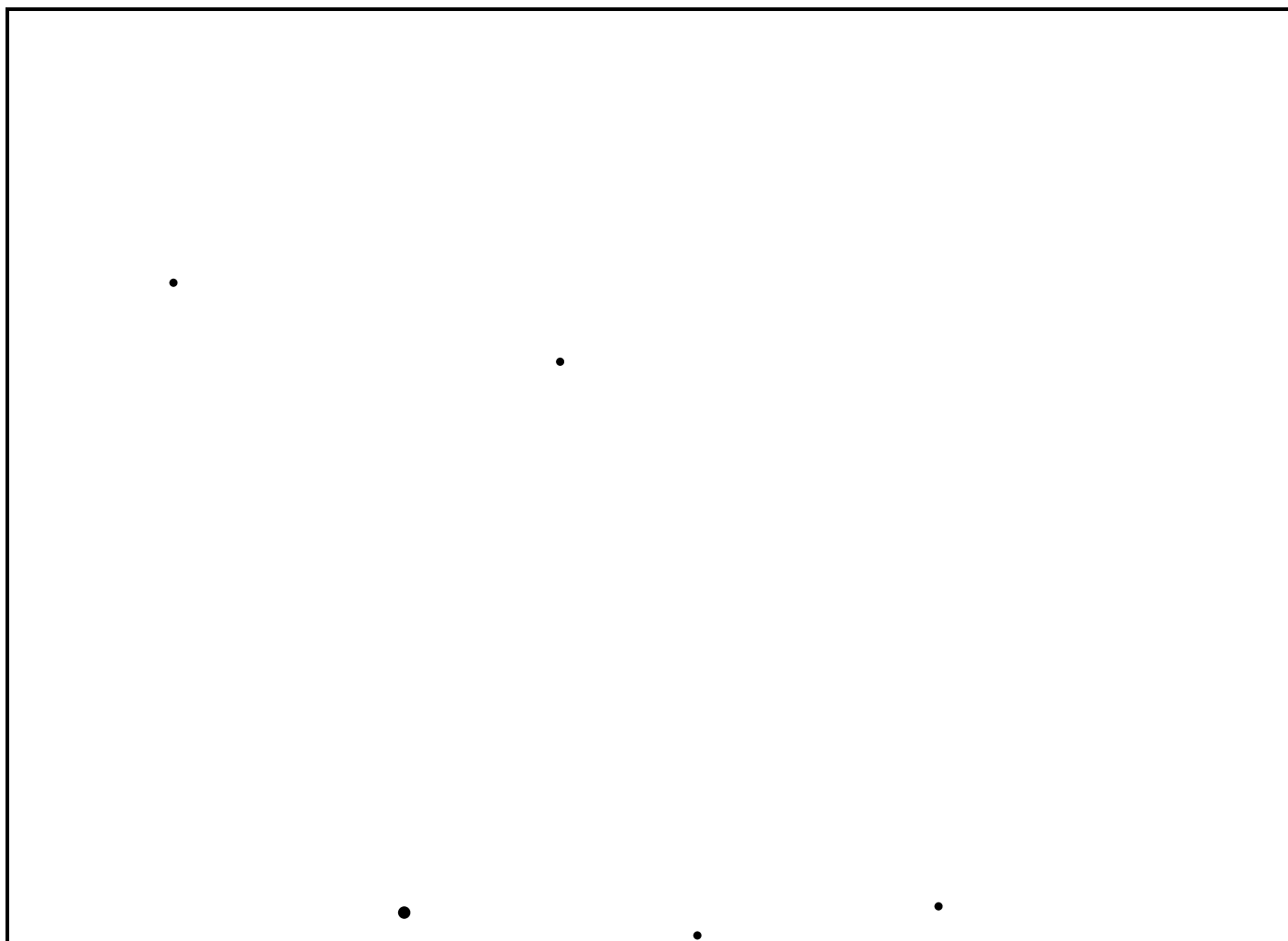
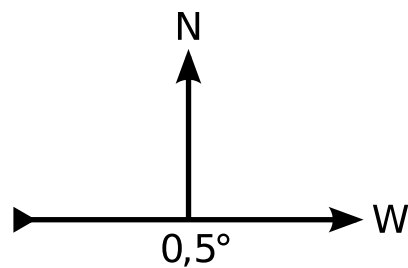
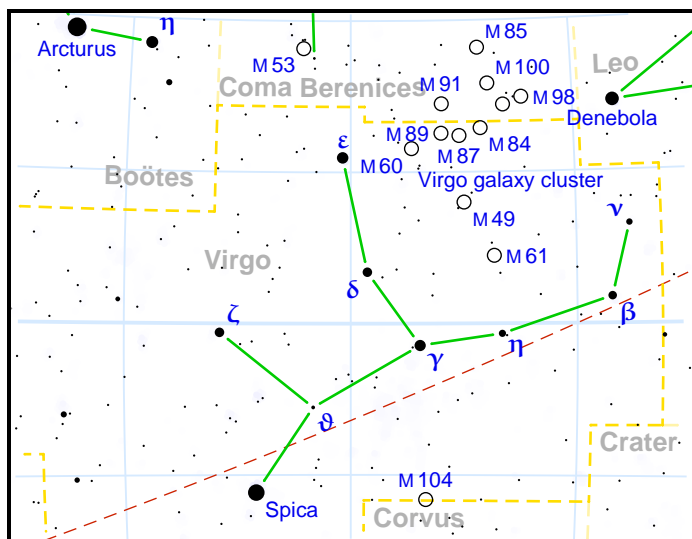
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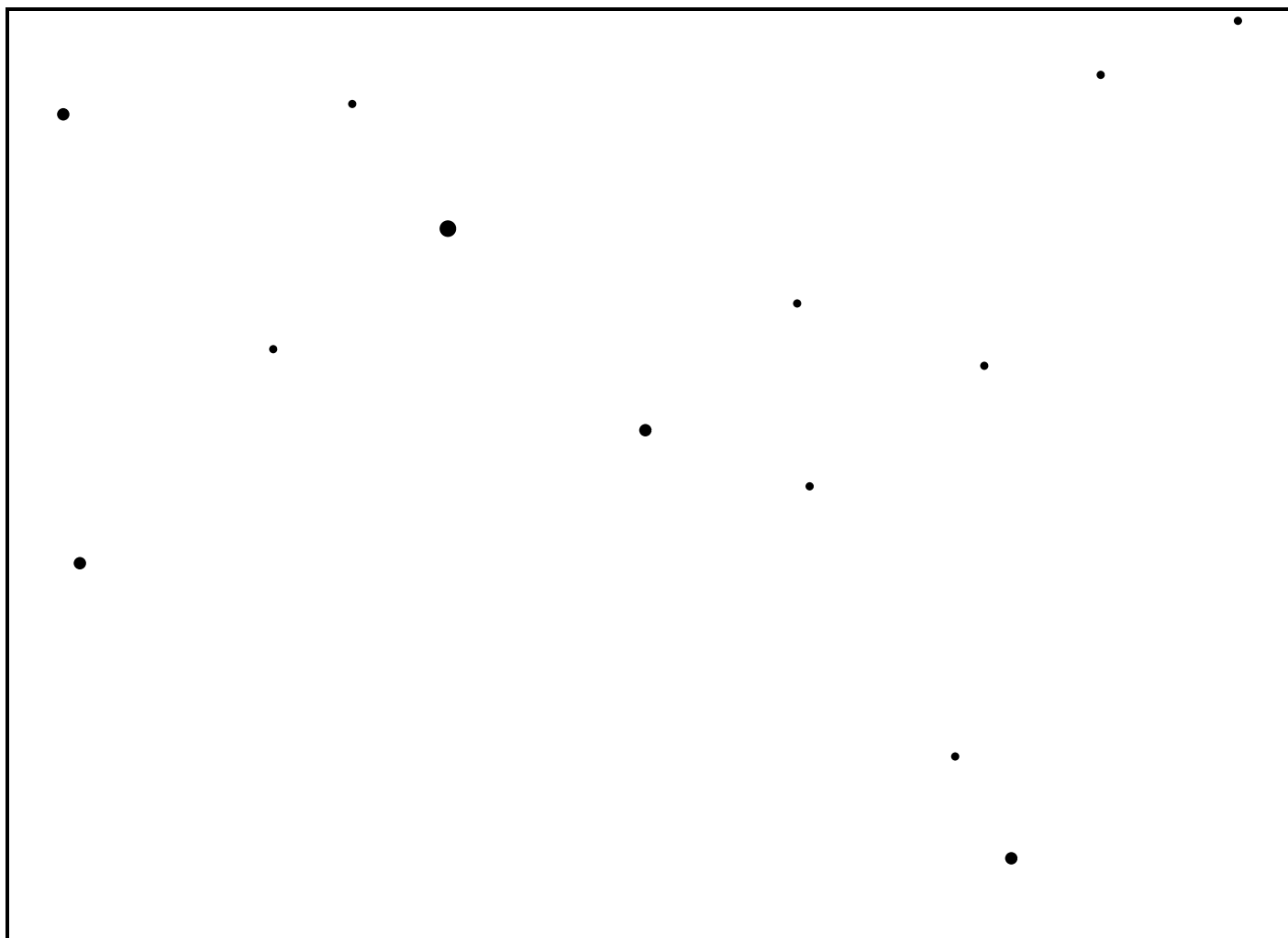
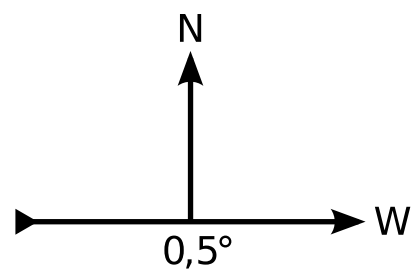
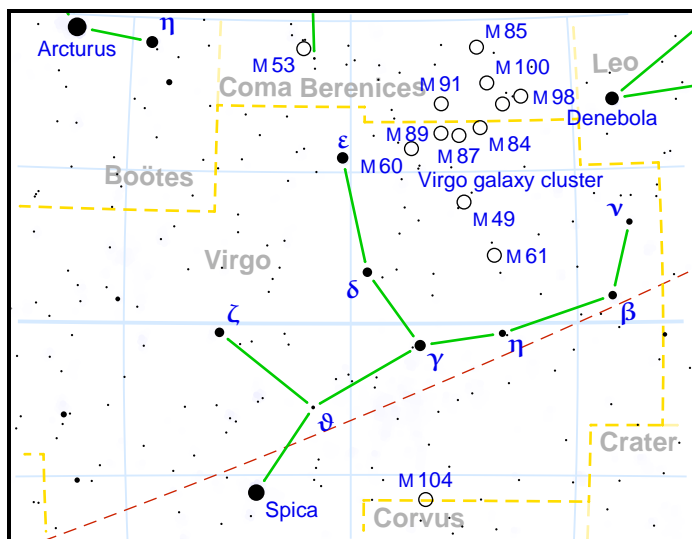
# M 58



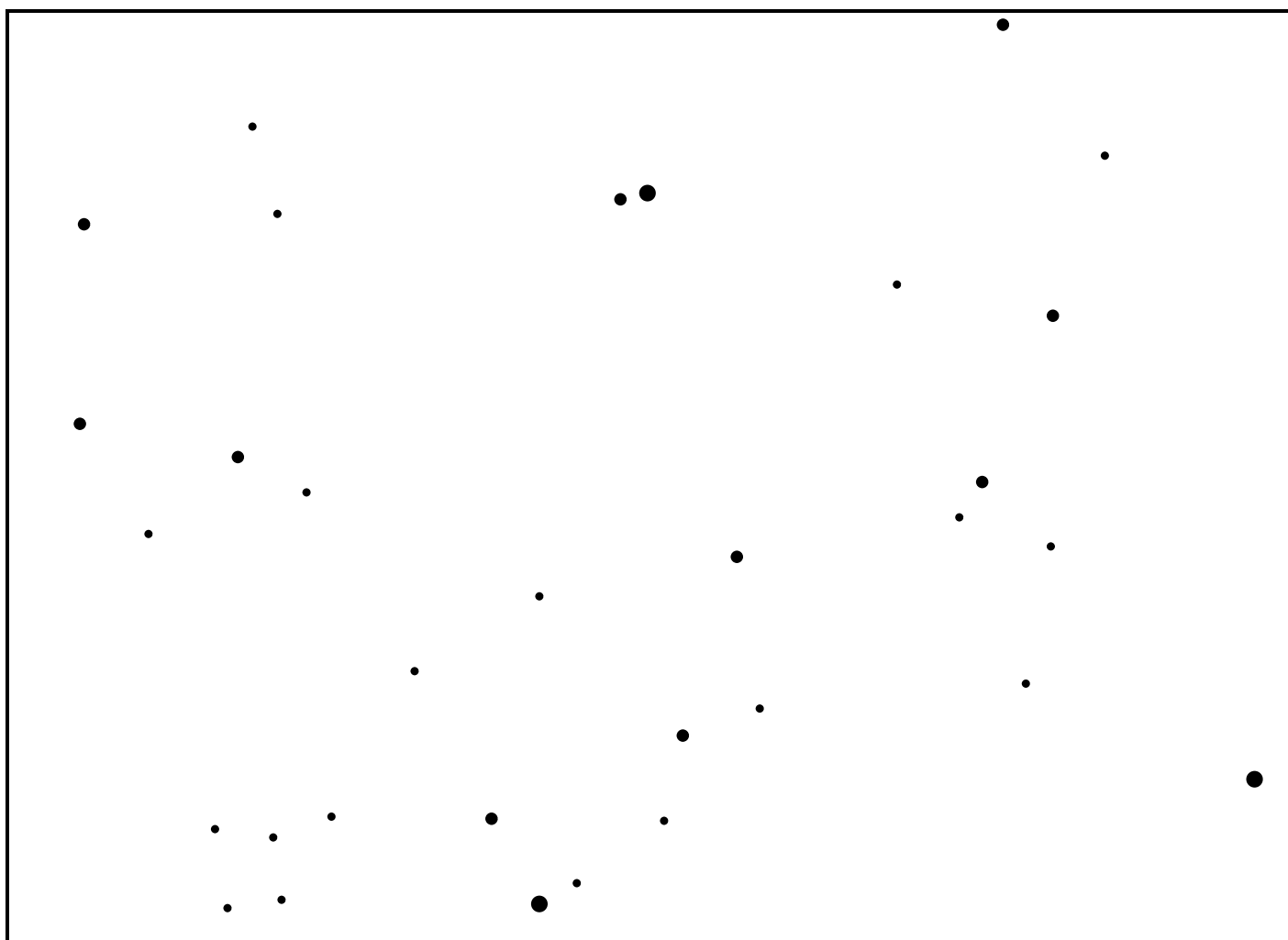
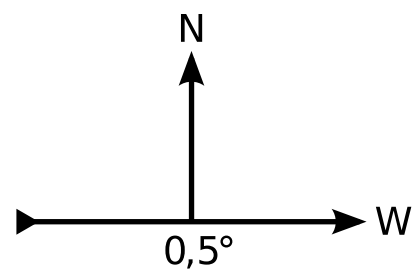
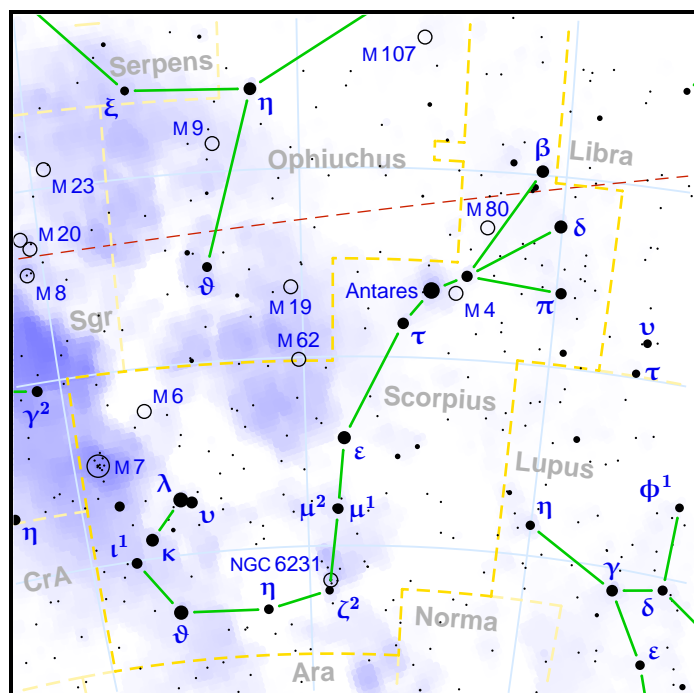
# M 59 M 60



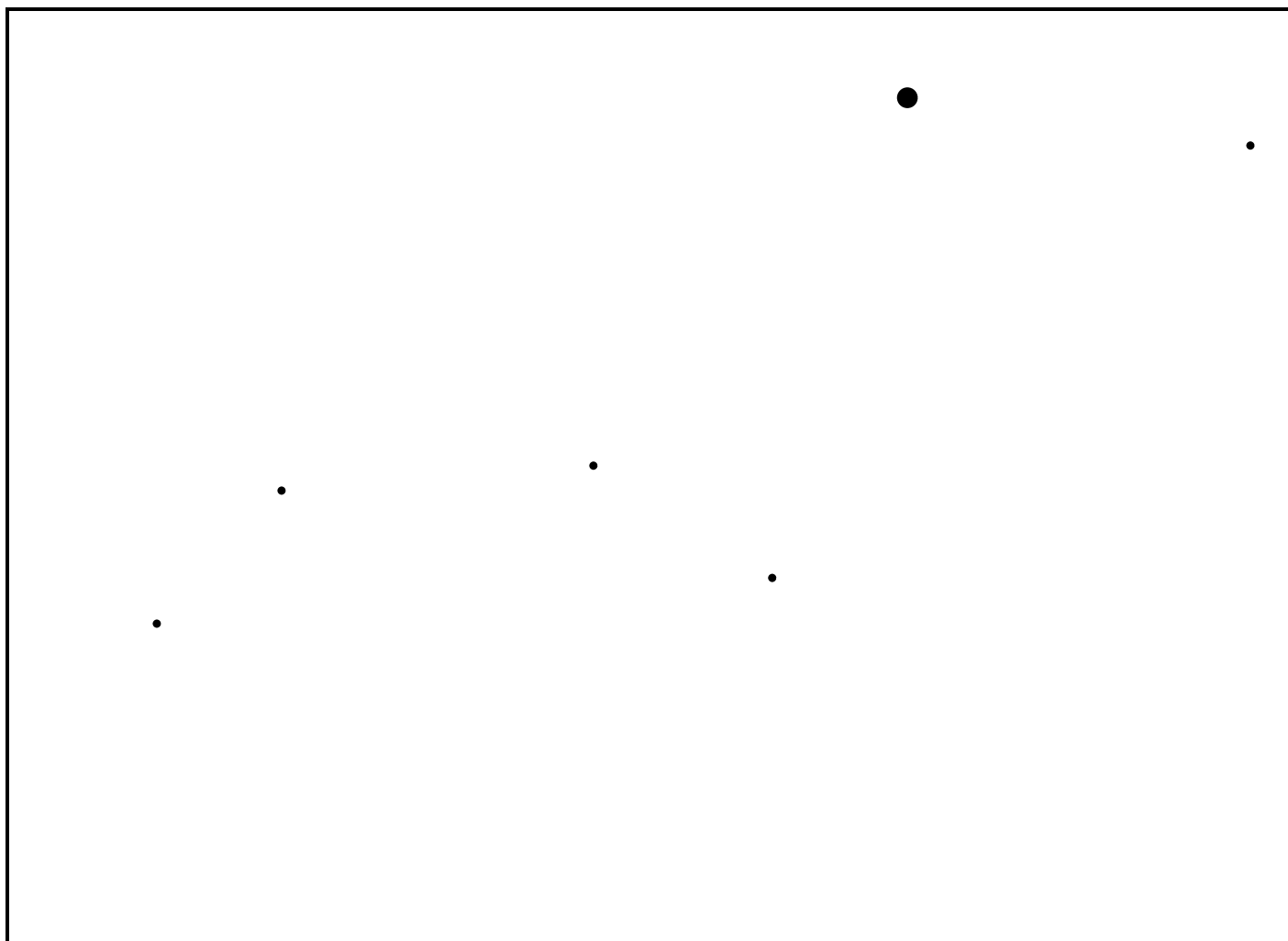
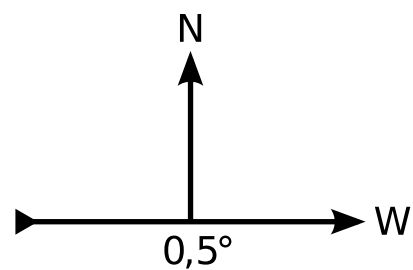
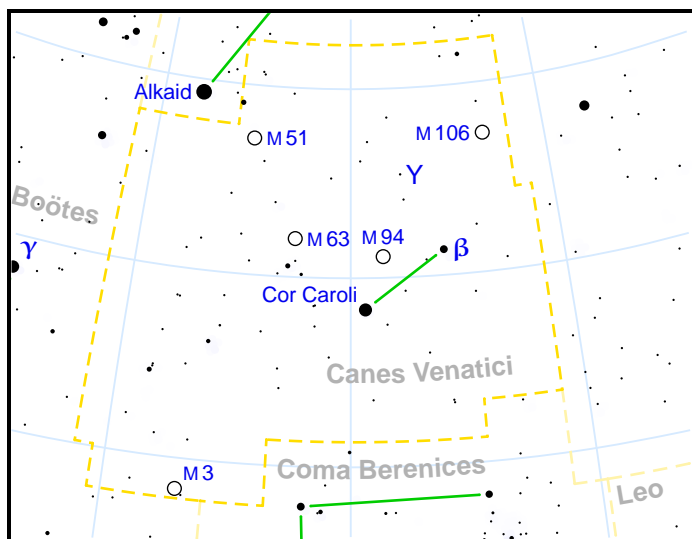
# M 61



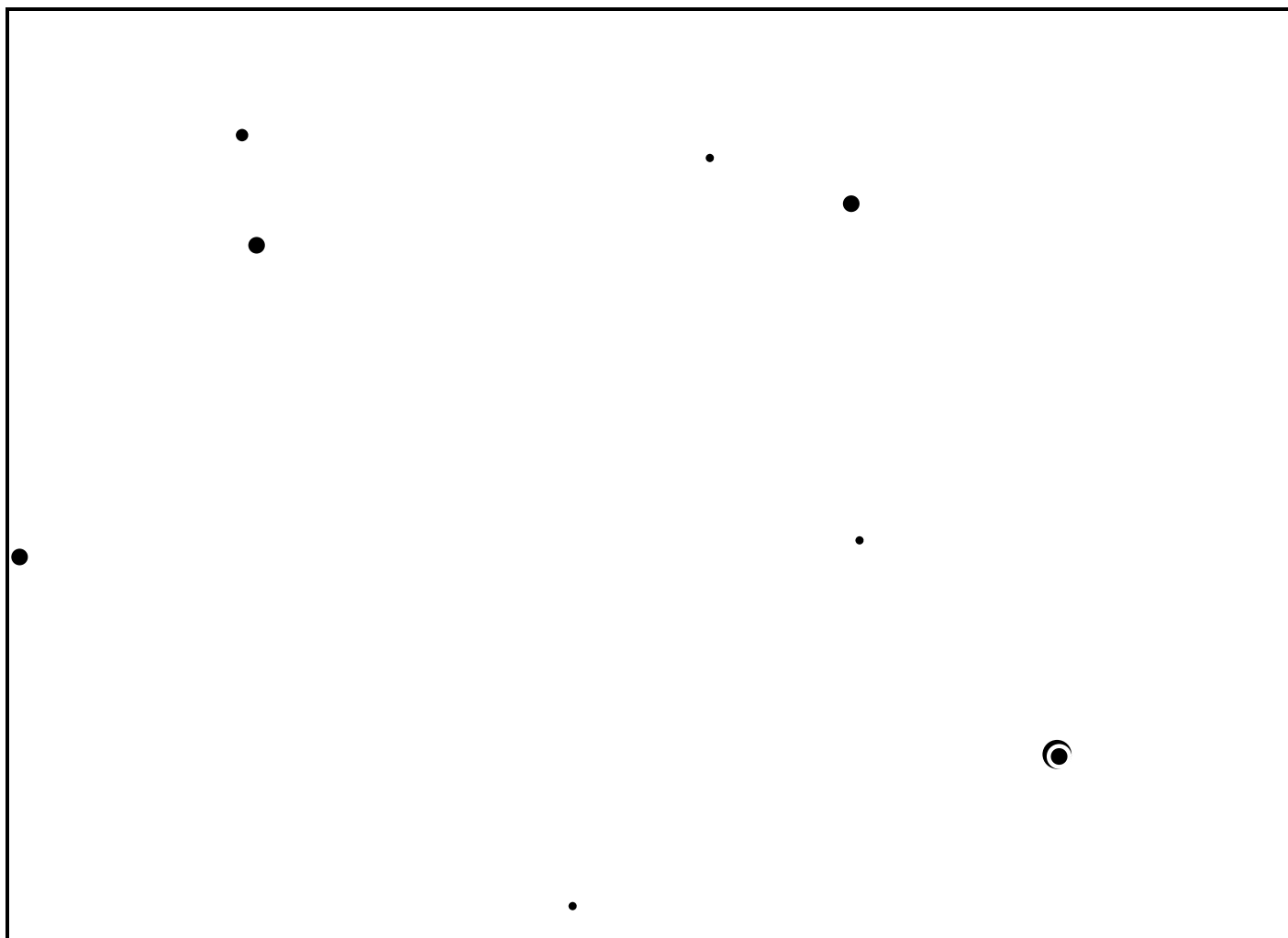
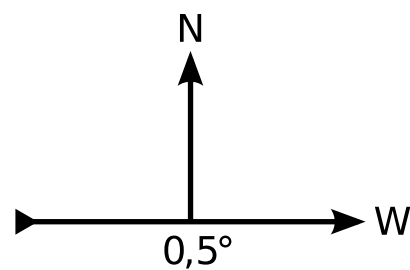
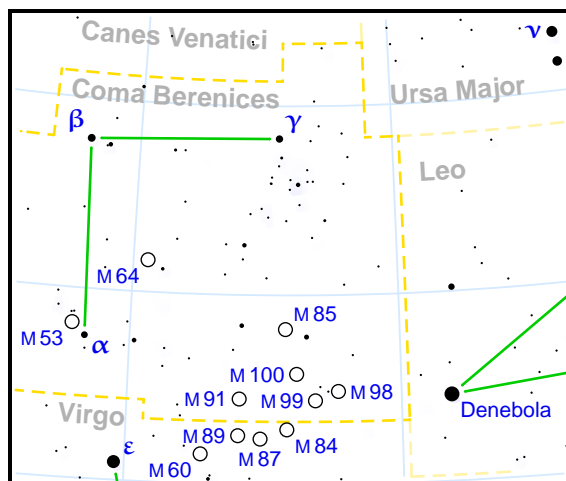
# M 62



# M 63

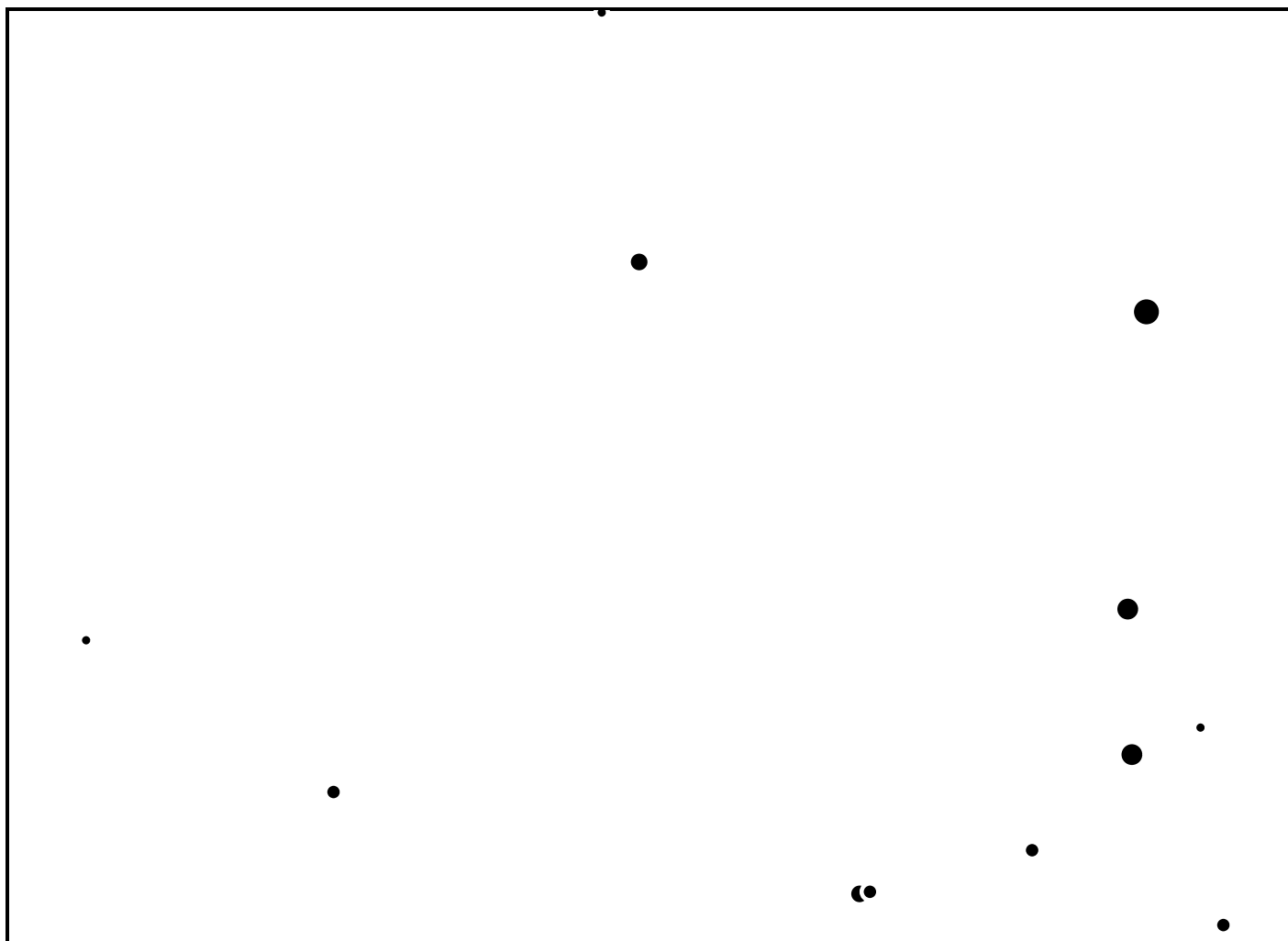
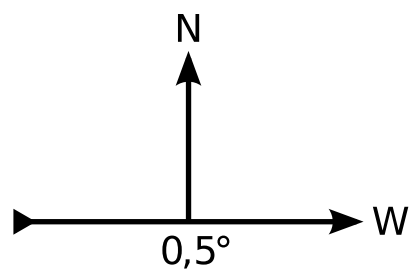
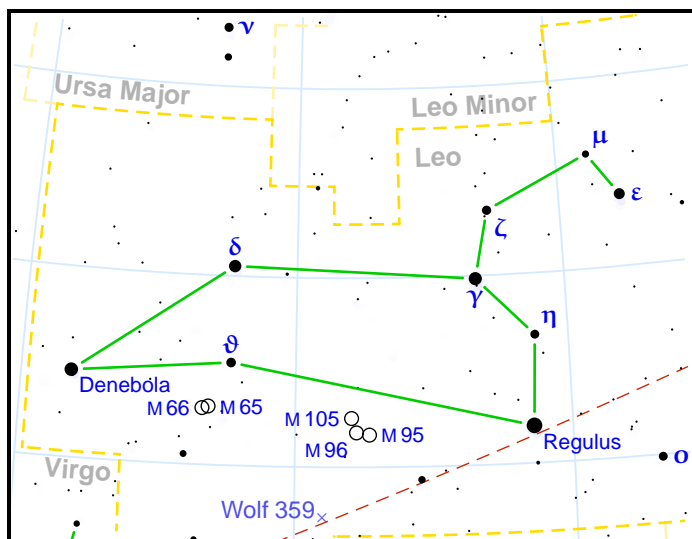


# M 64



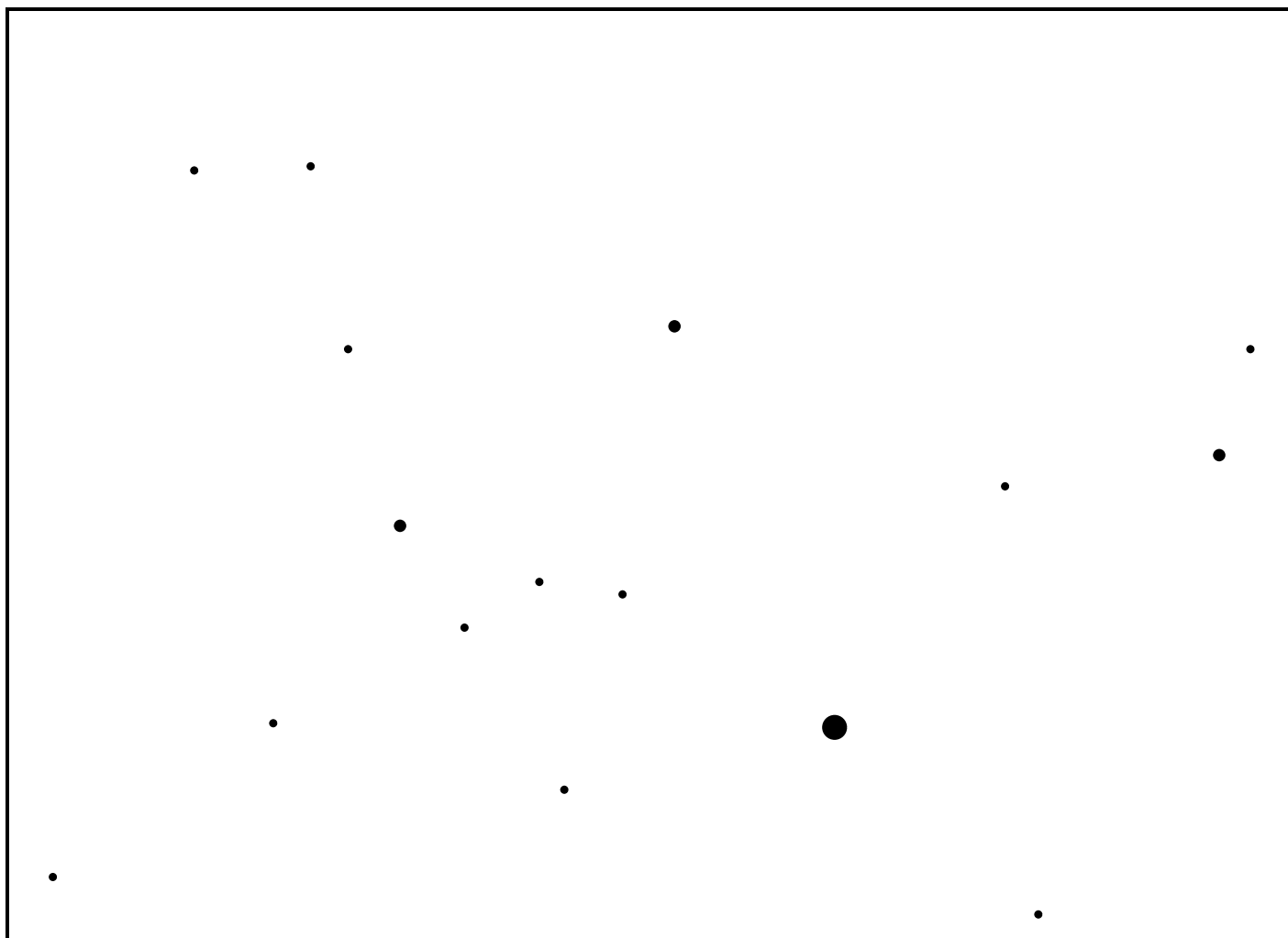
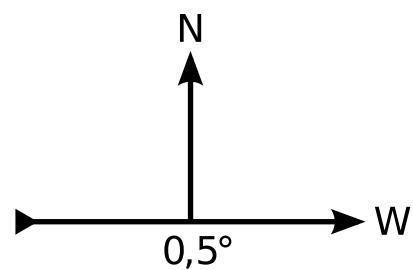
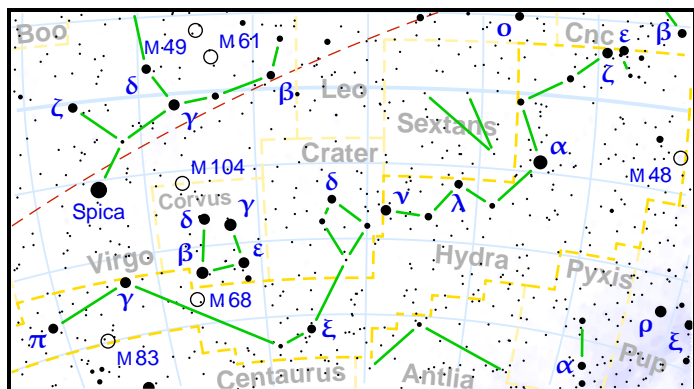
# M 65

# M 66

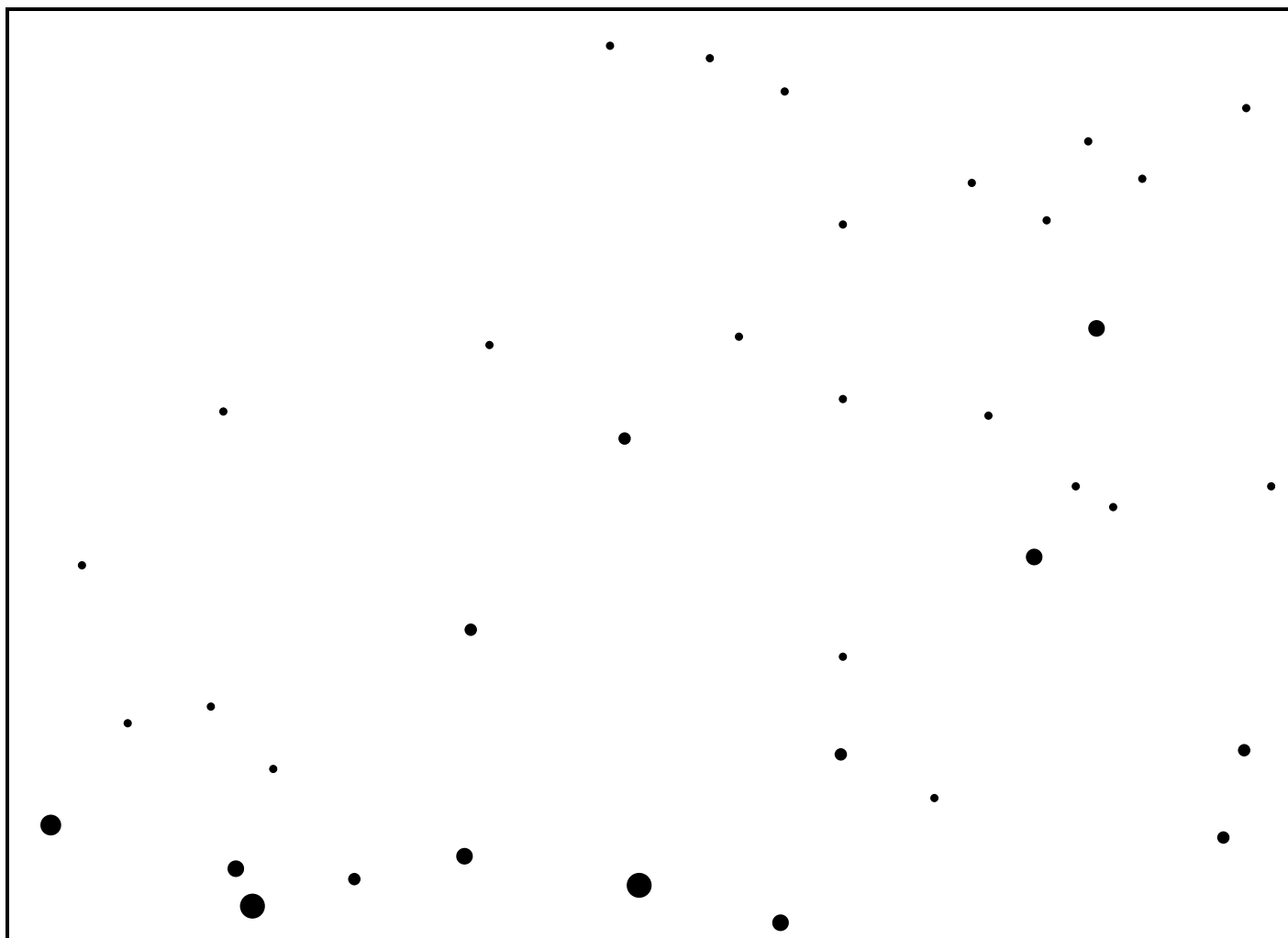
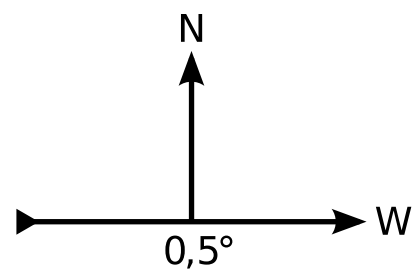
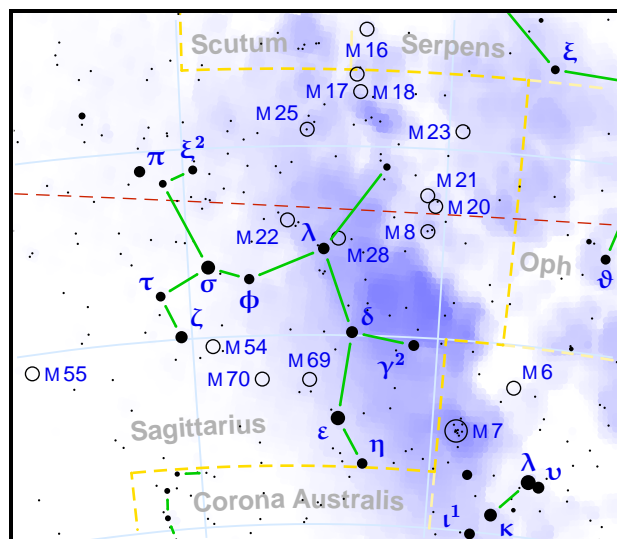




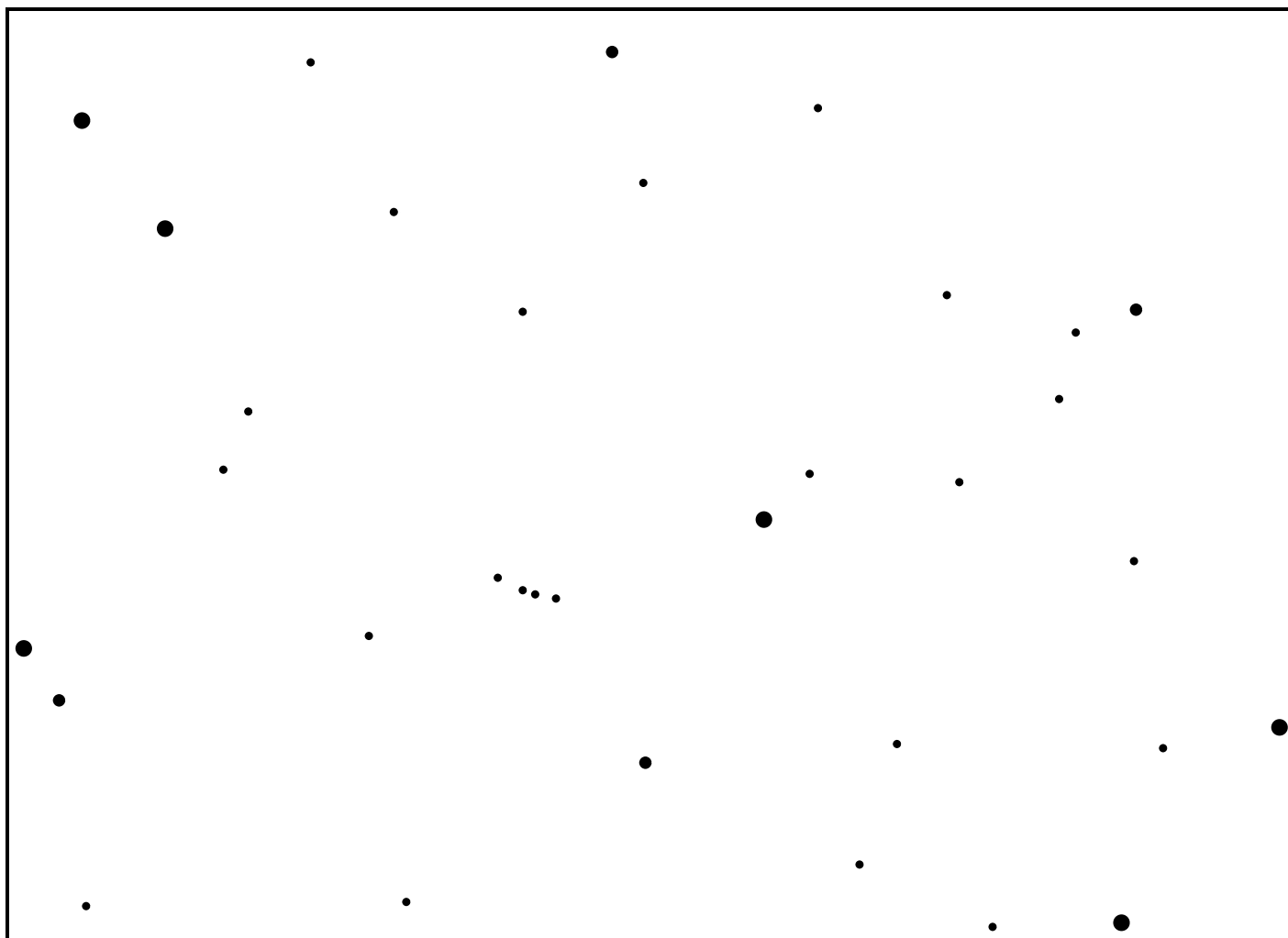
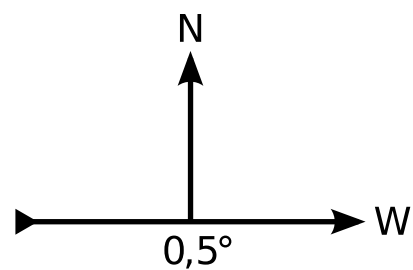
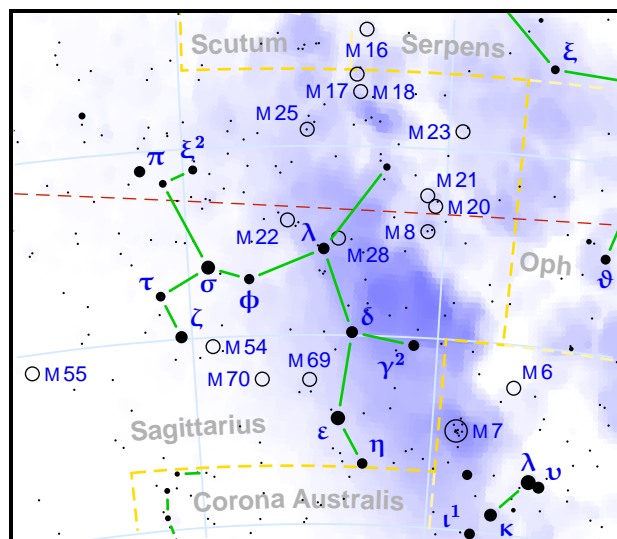
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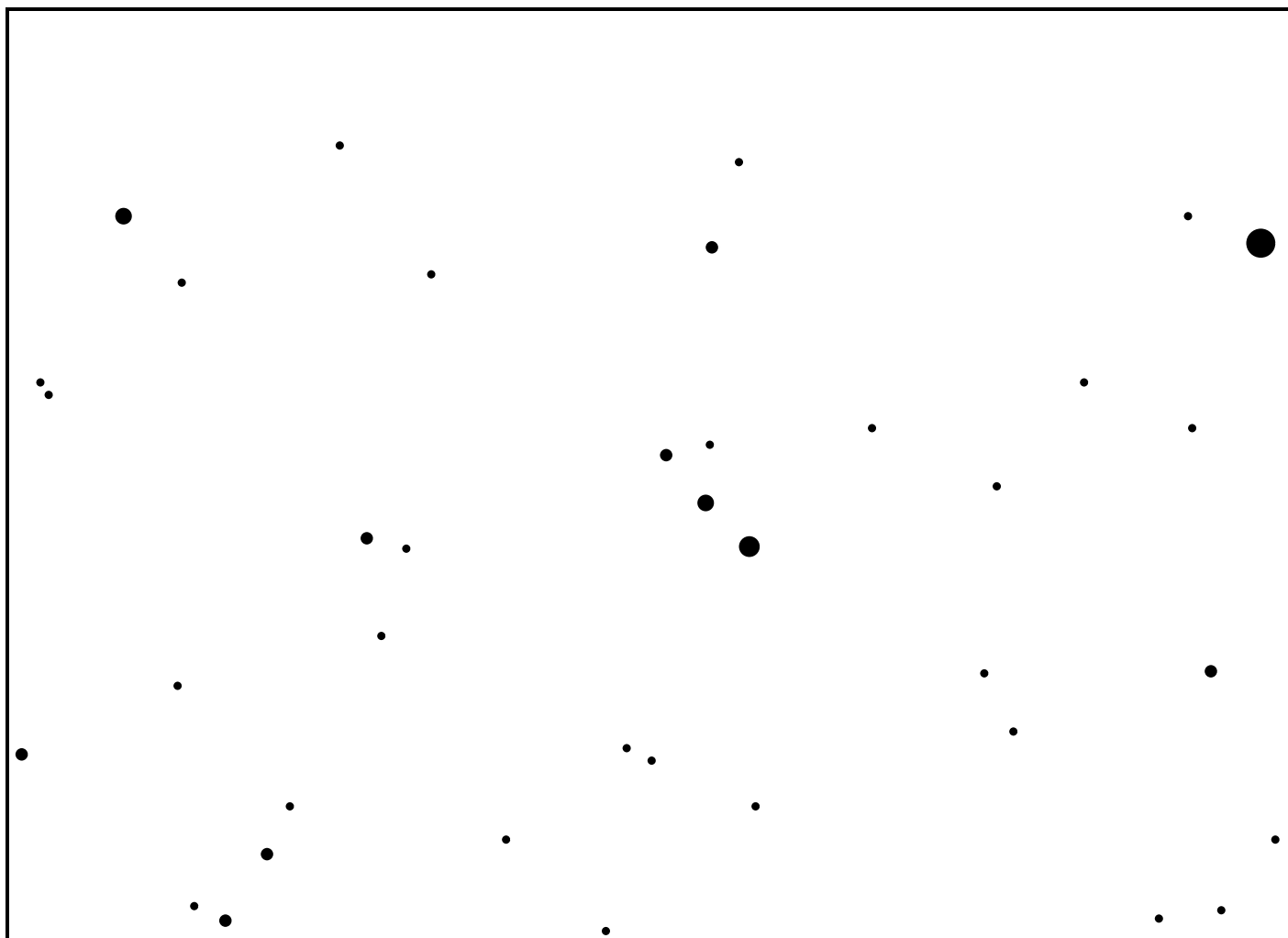
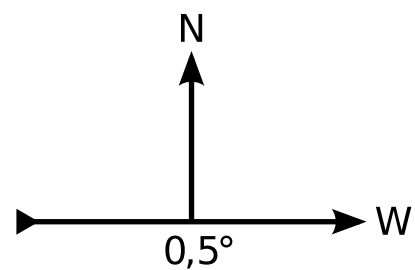
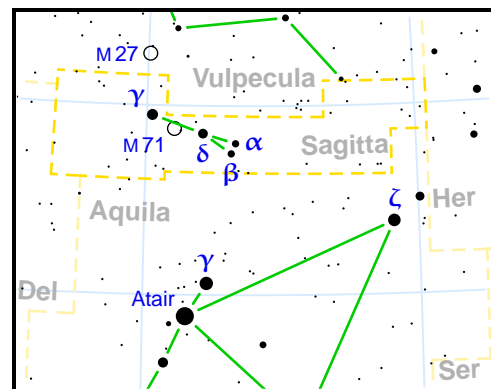
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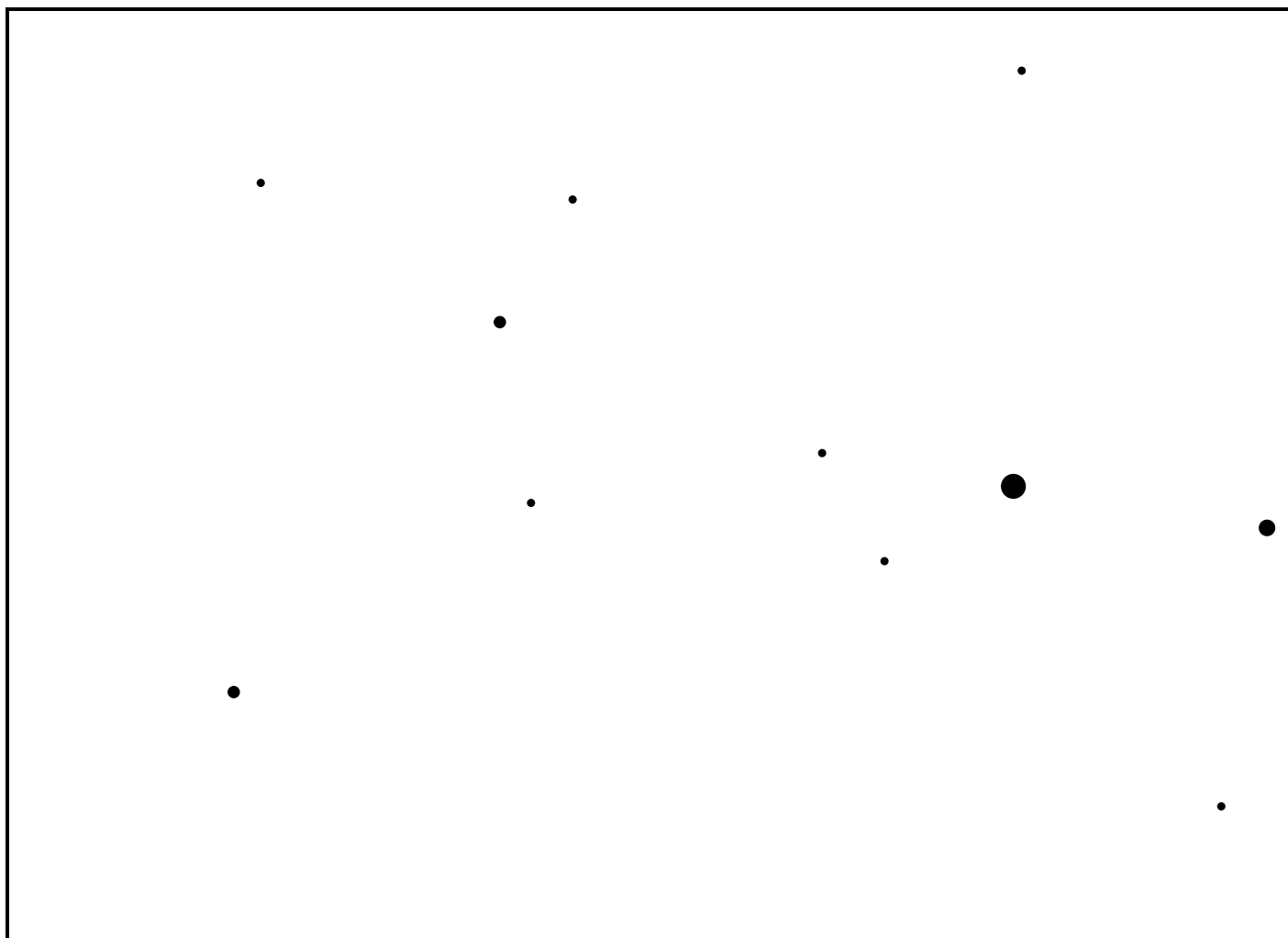
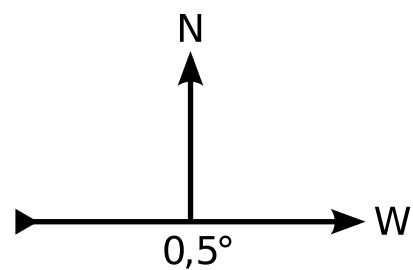
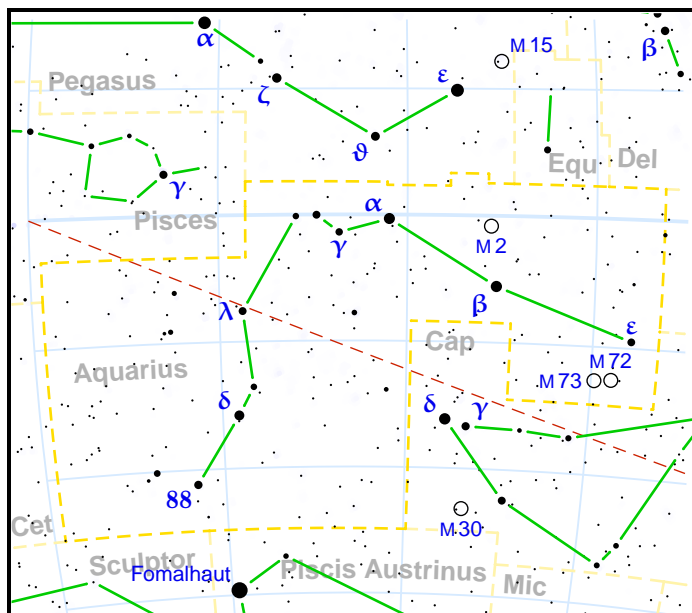
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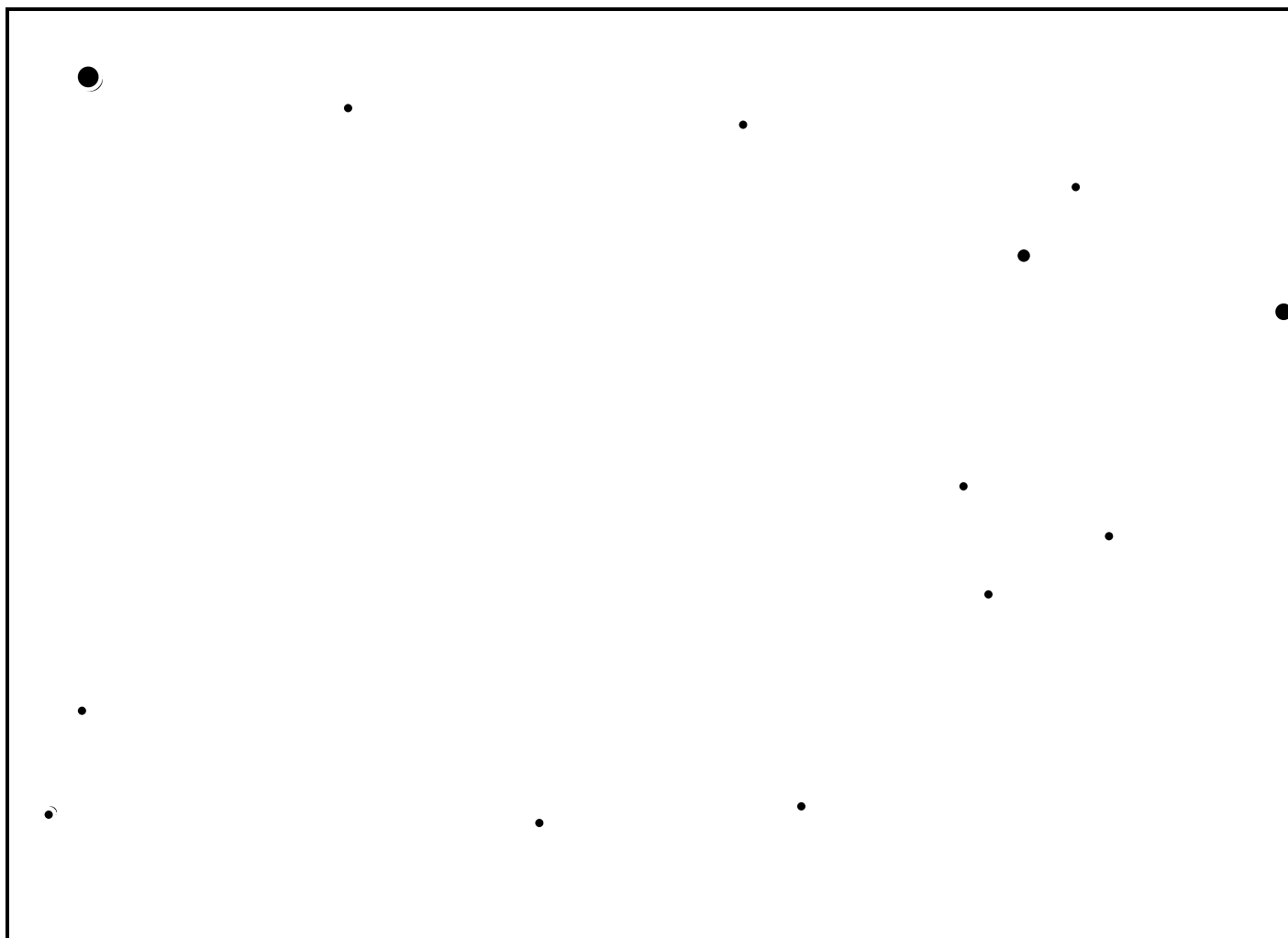
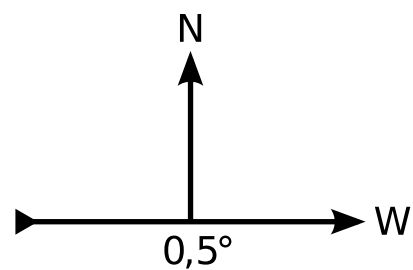
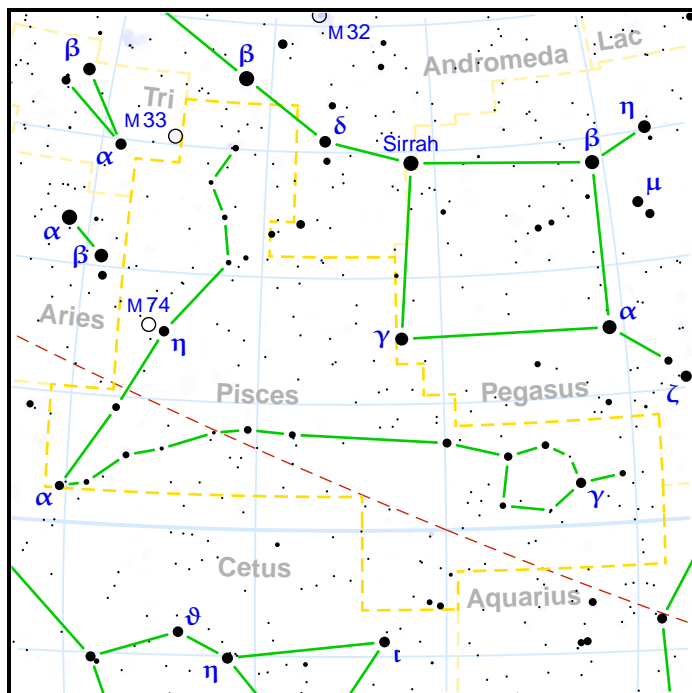
# M 71



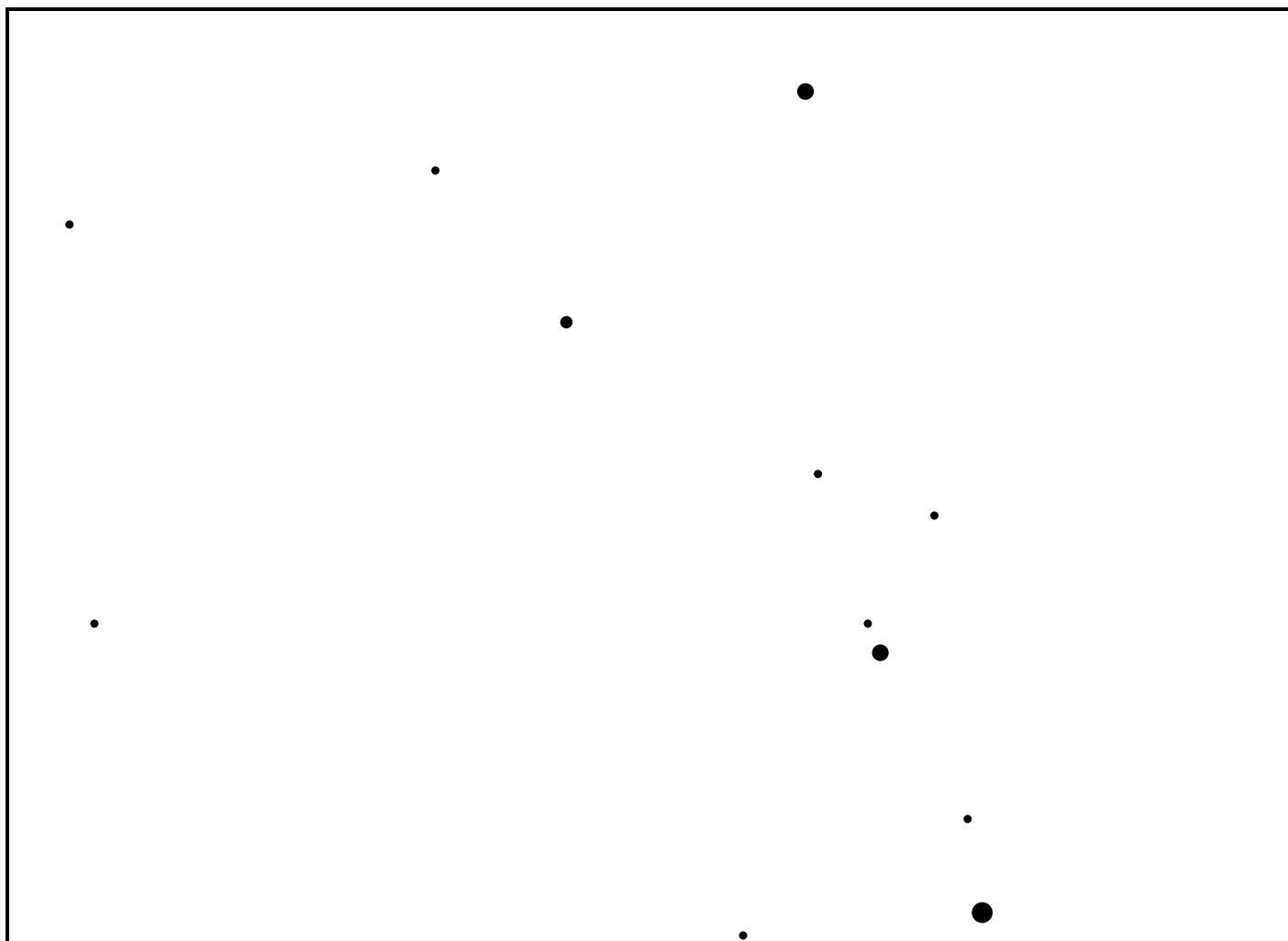
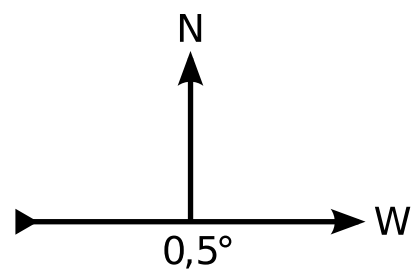
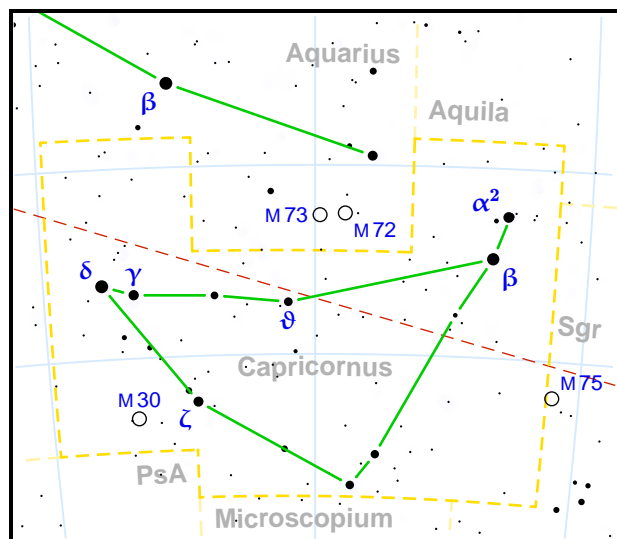
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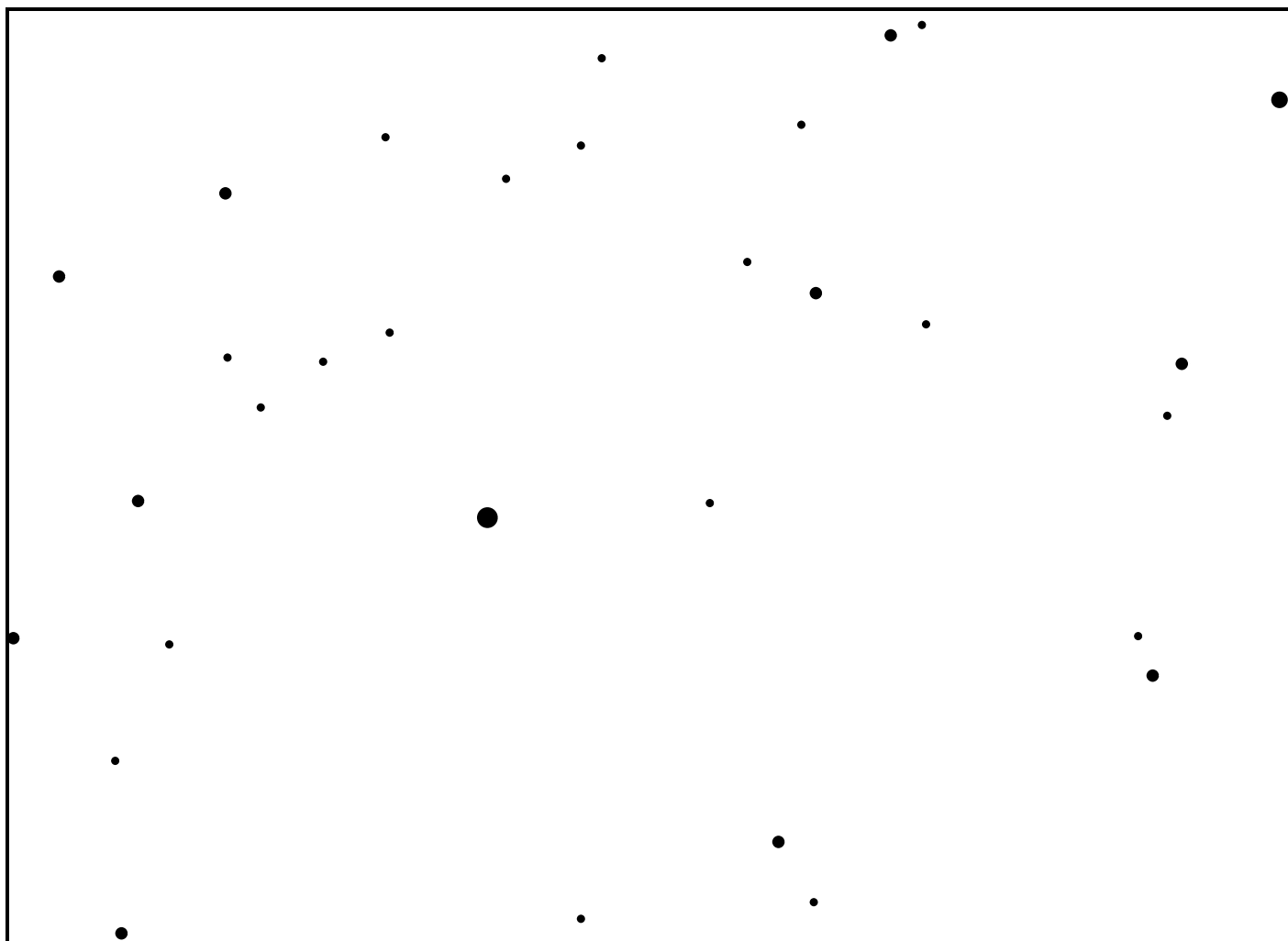
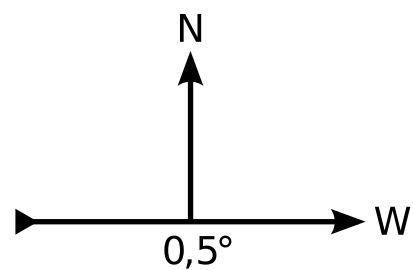
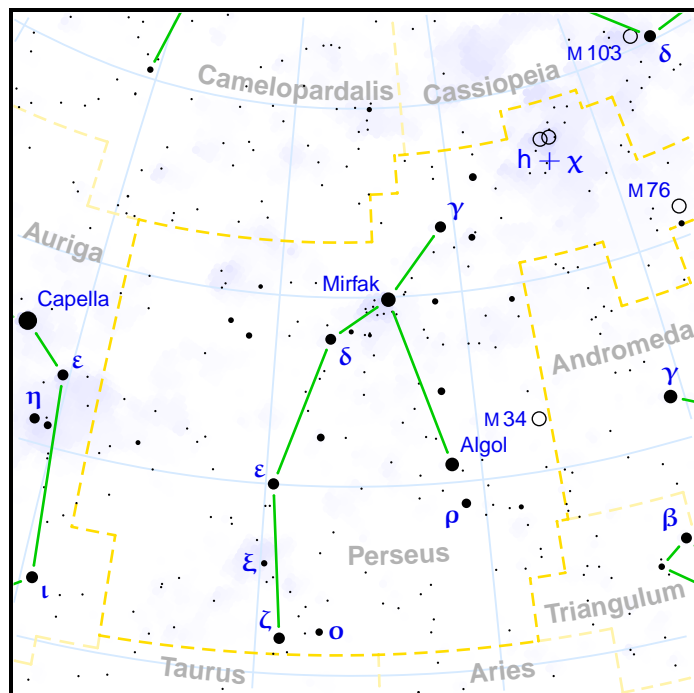
# M 74



# M 75

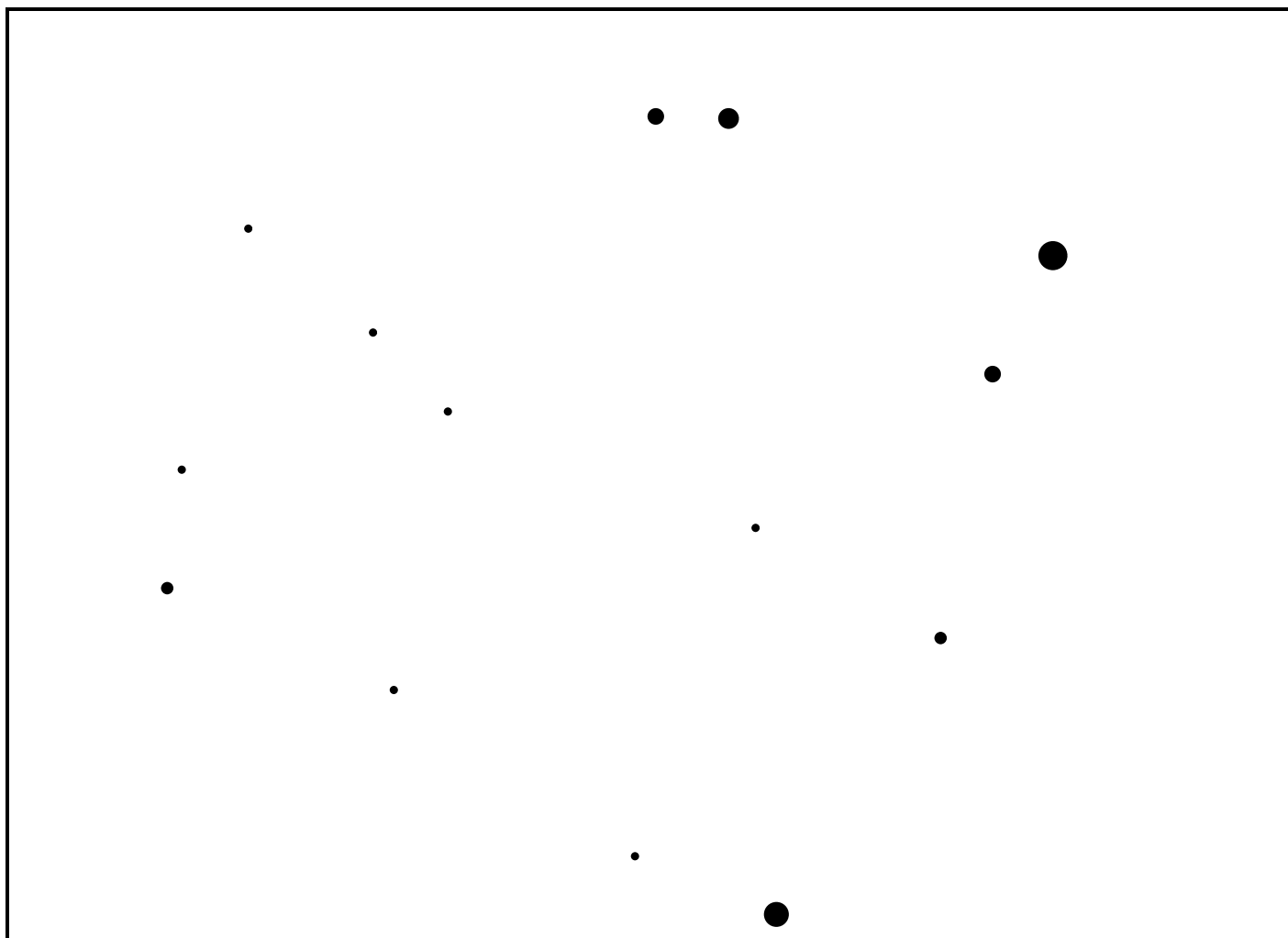
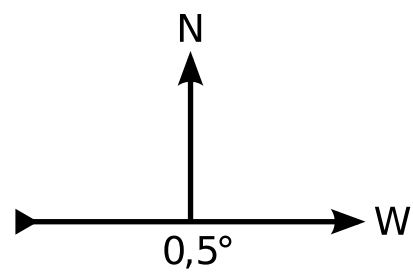
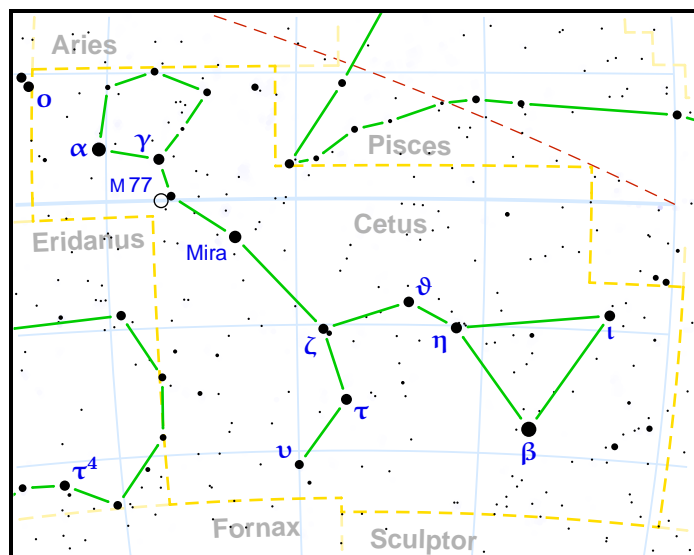


# M 76

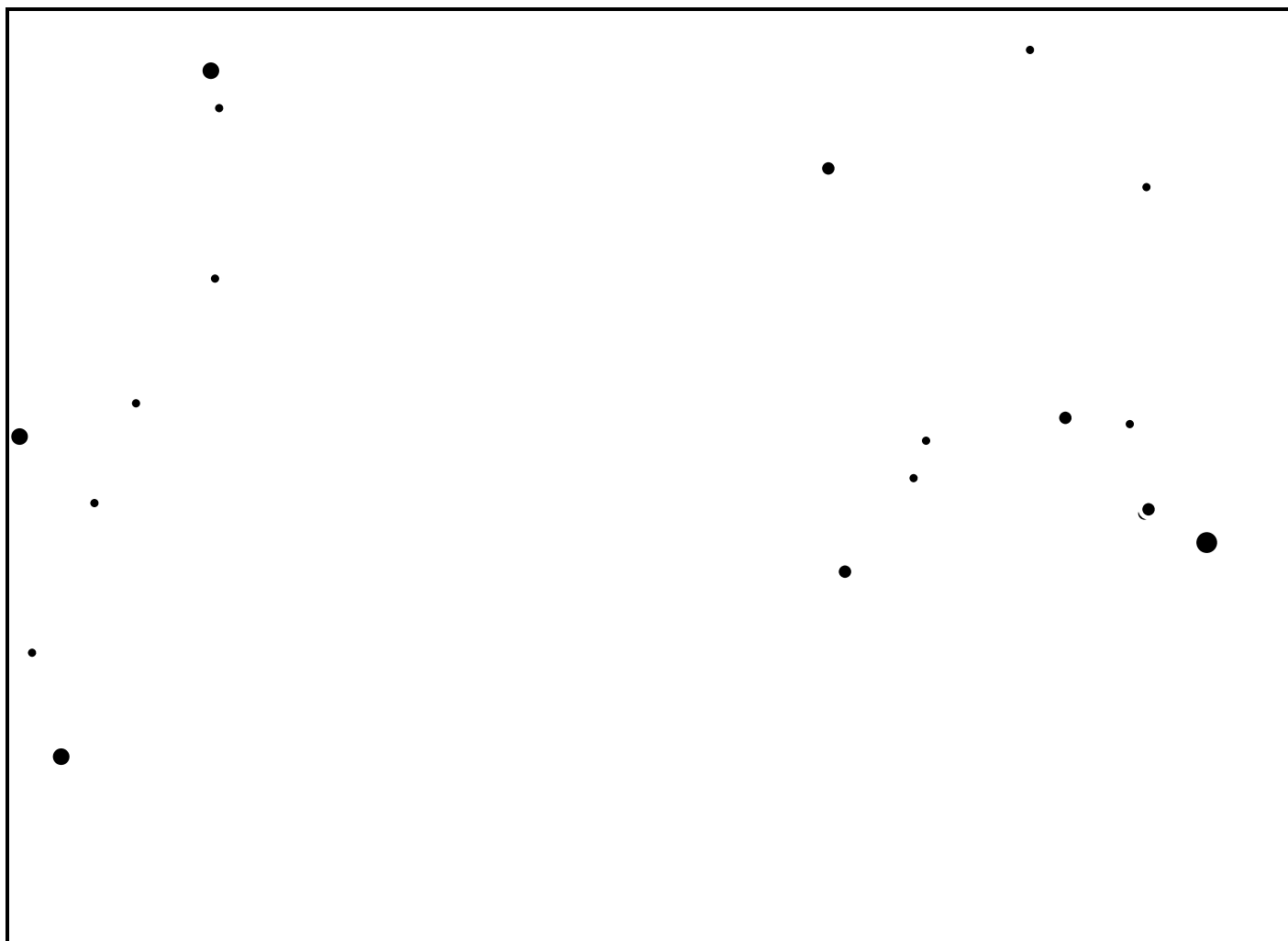
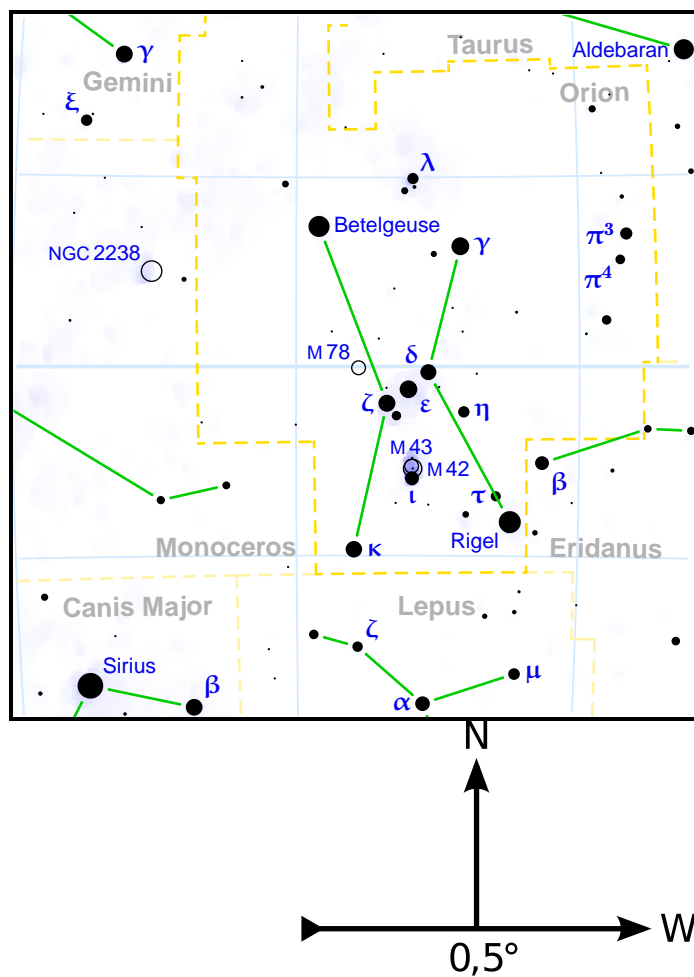




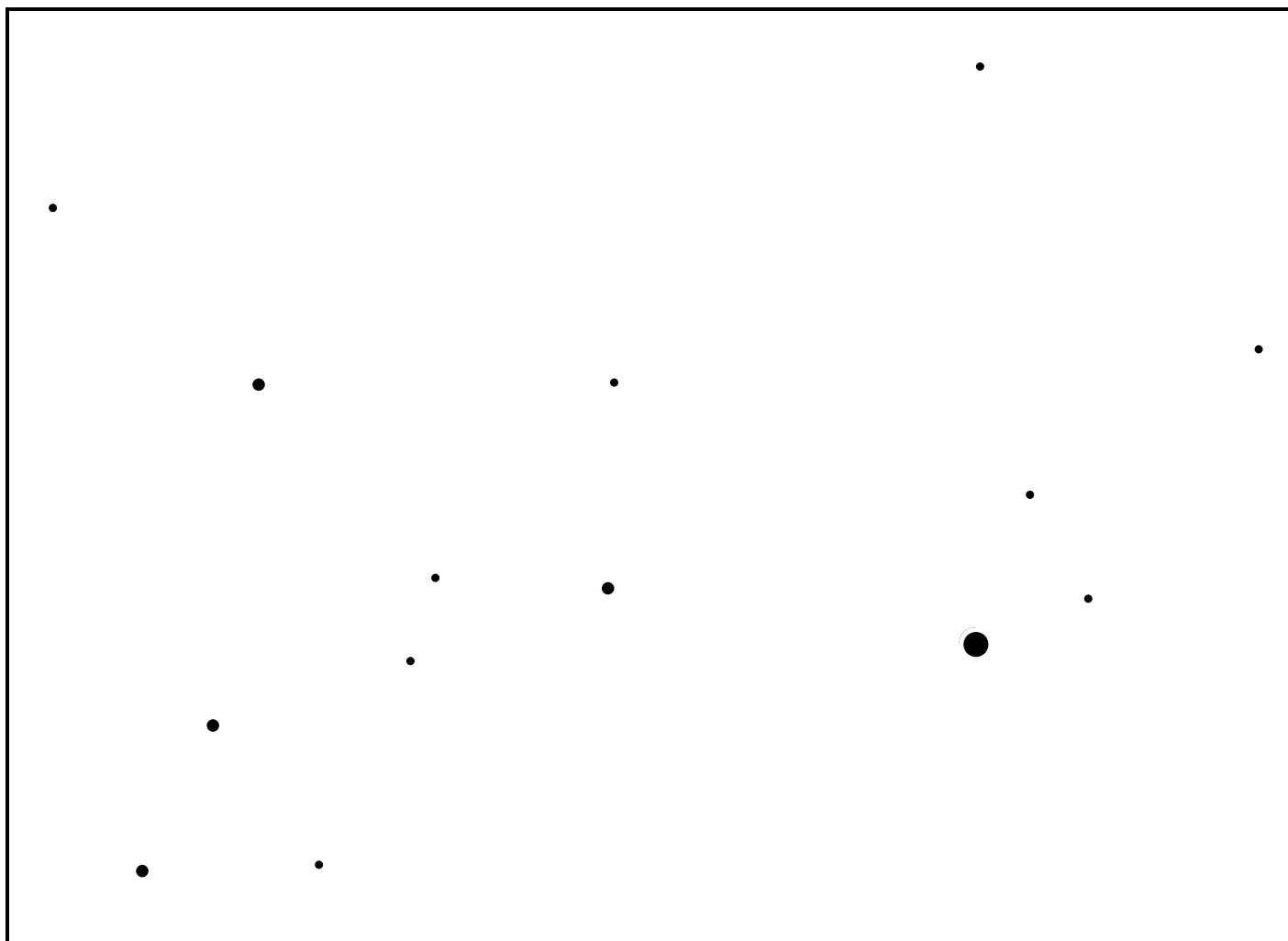
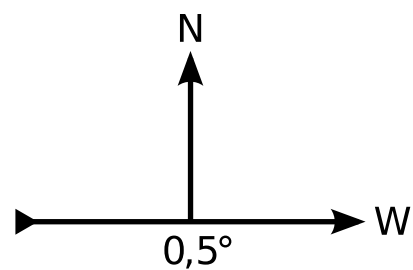
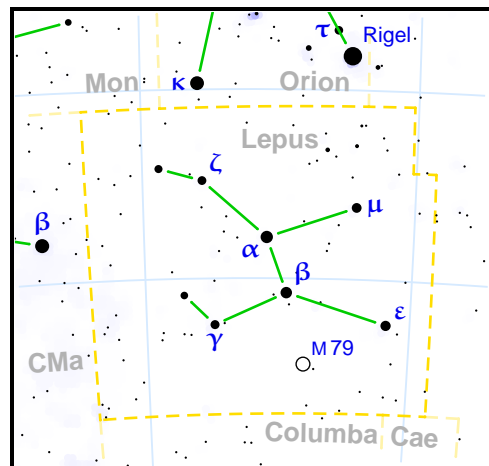
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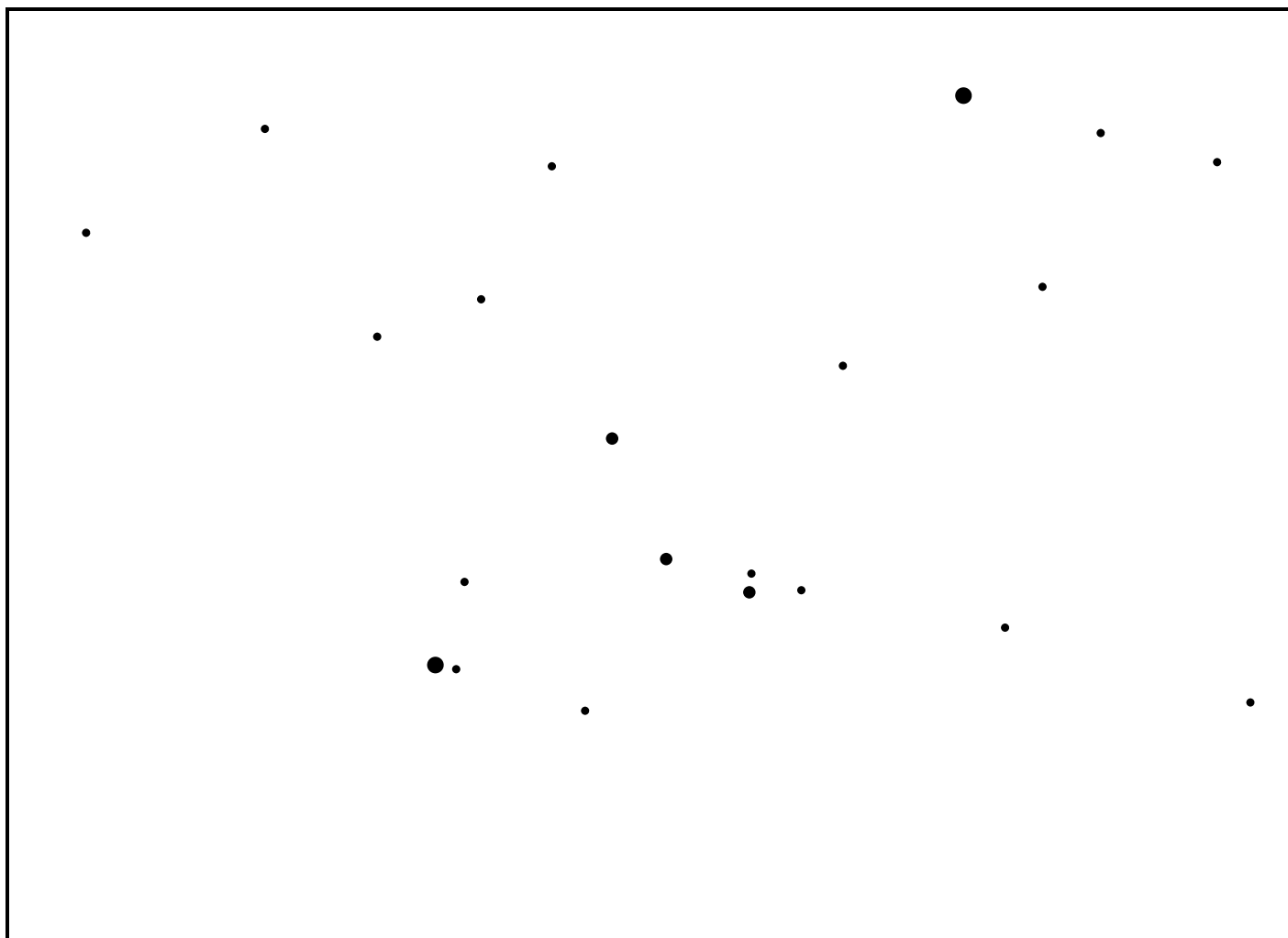
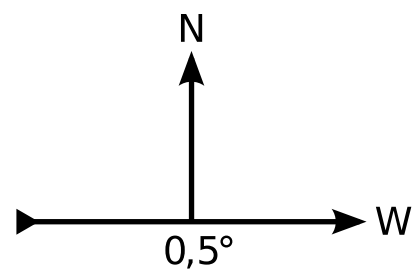
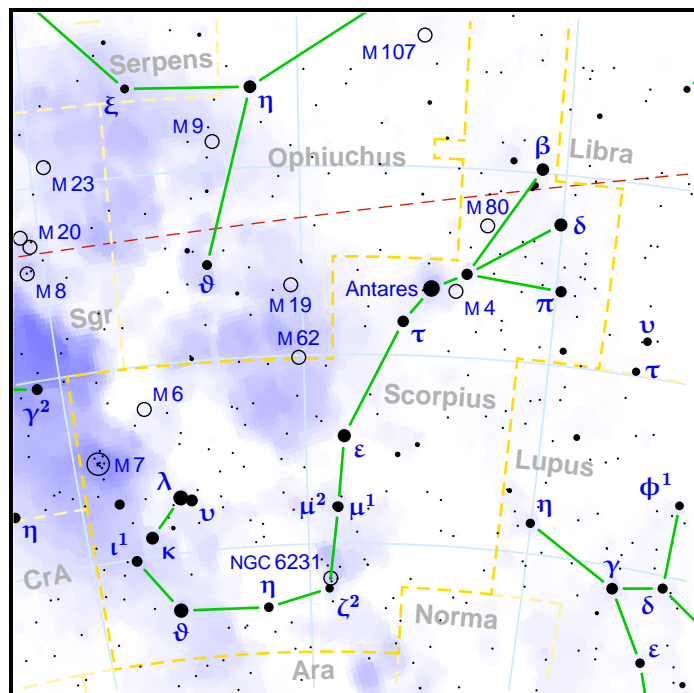
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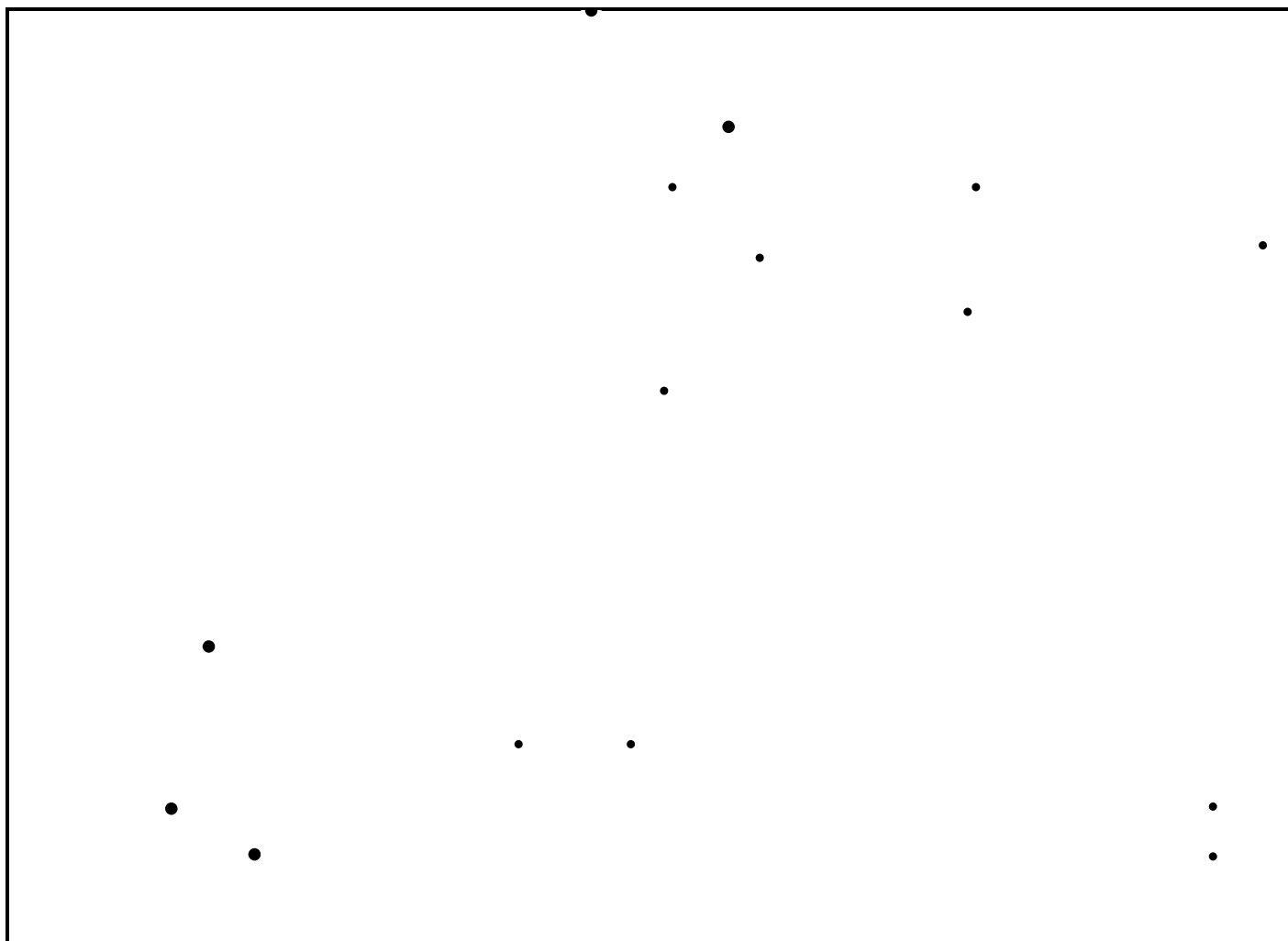
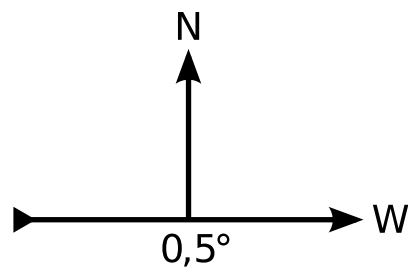
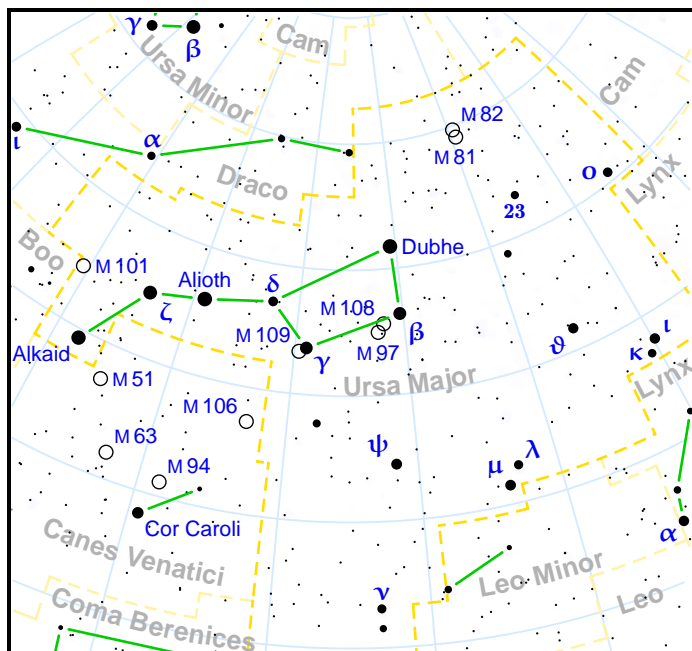
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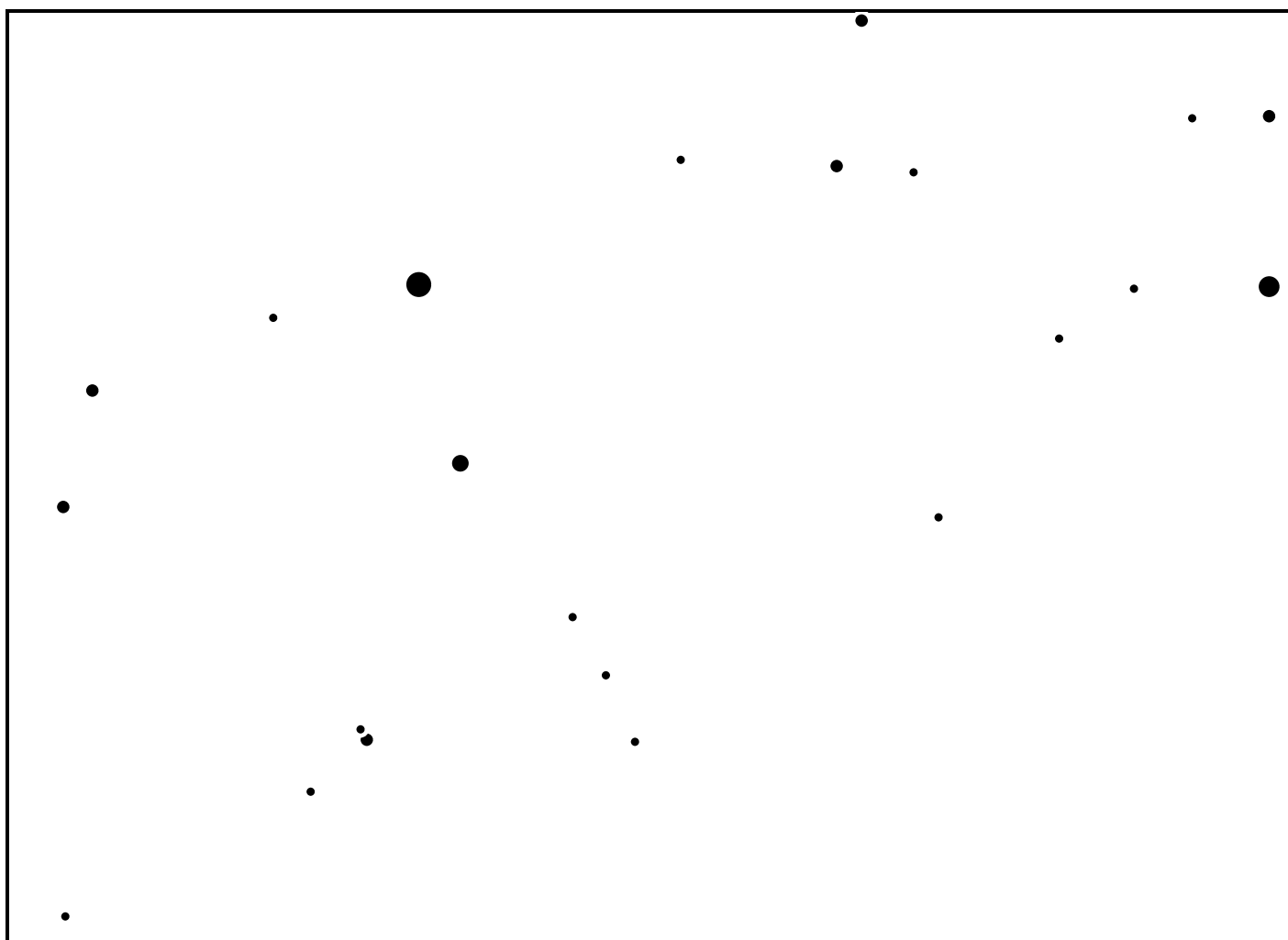
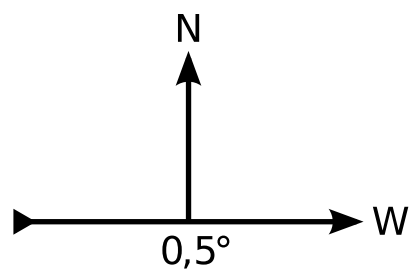
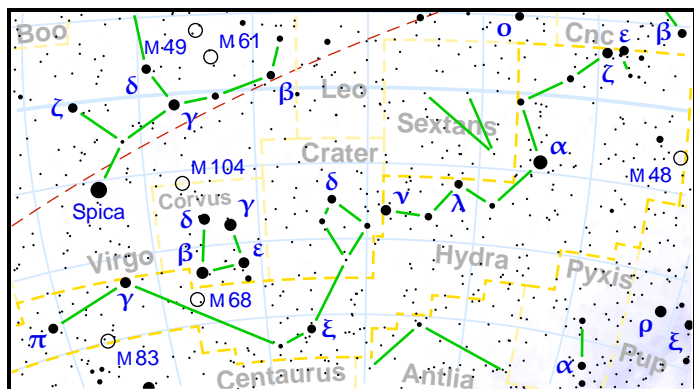
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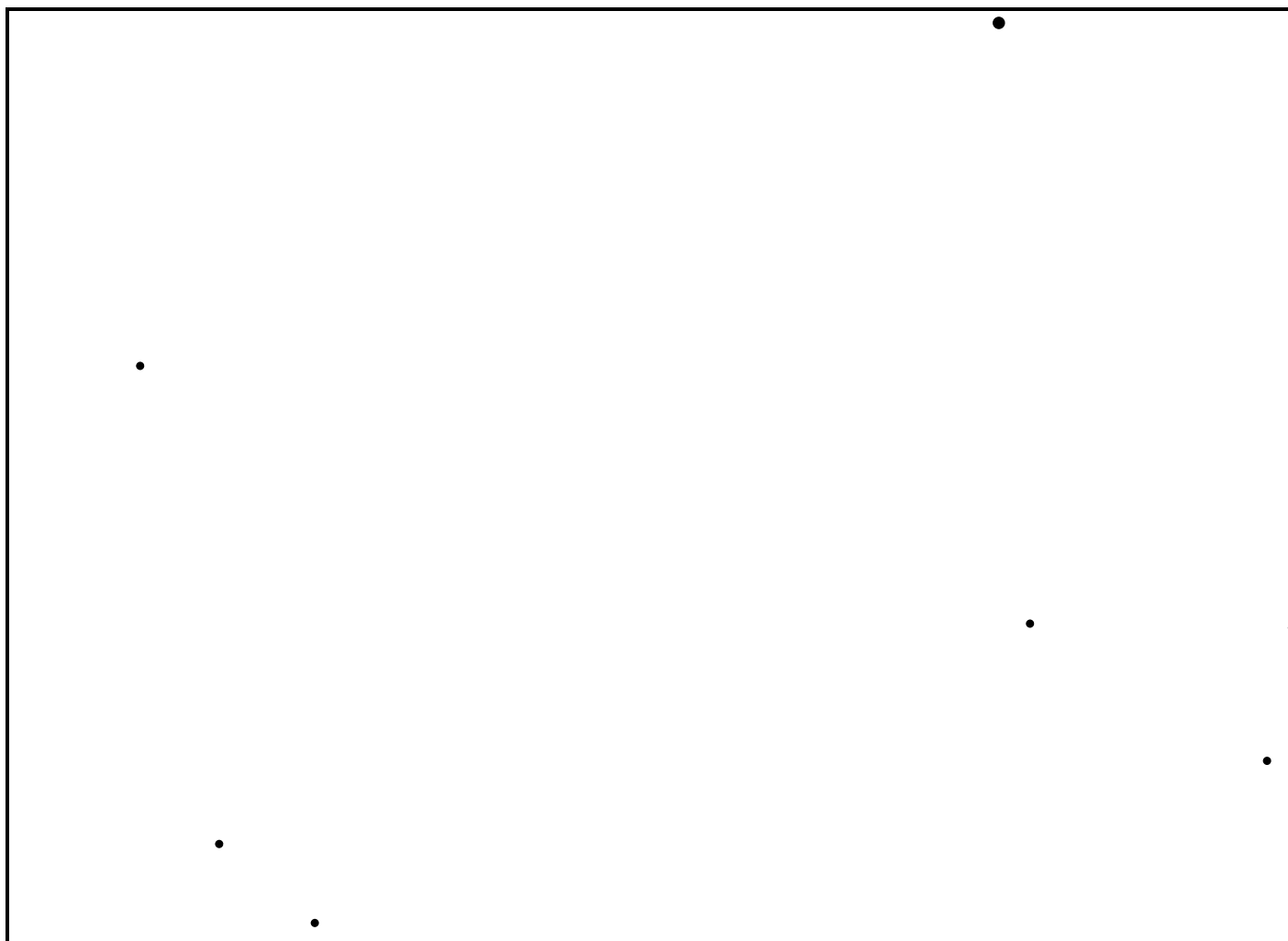
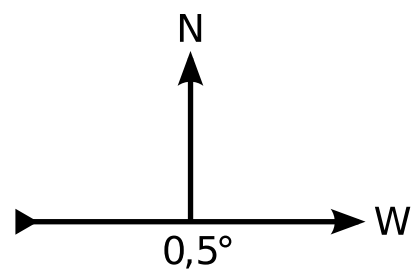
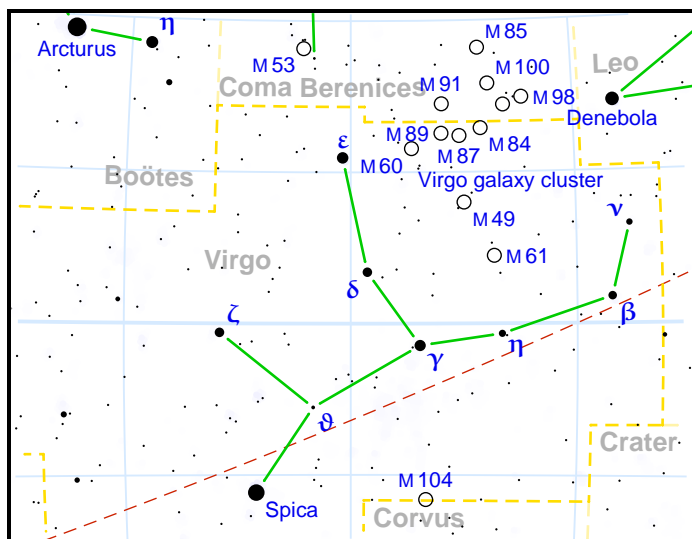
M 81  
M 82



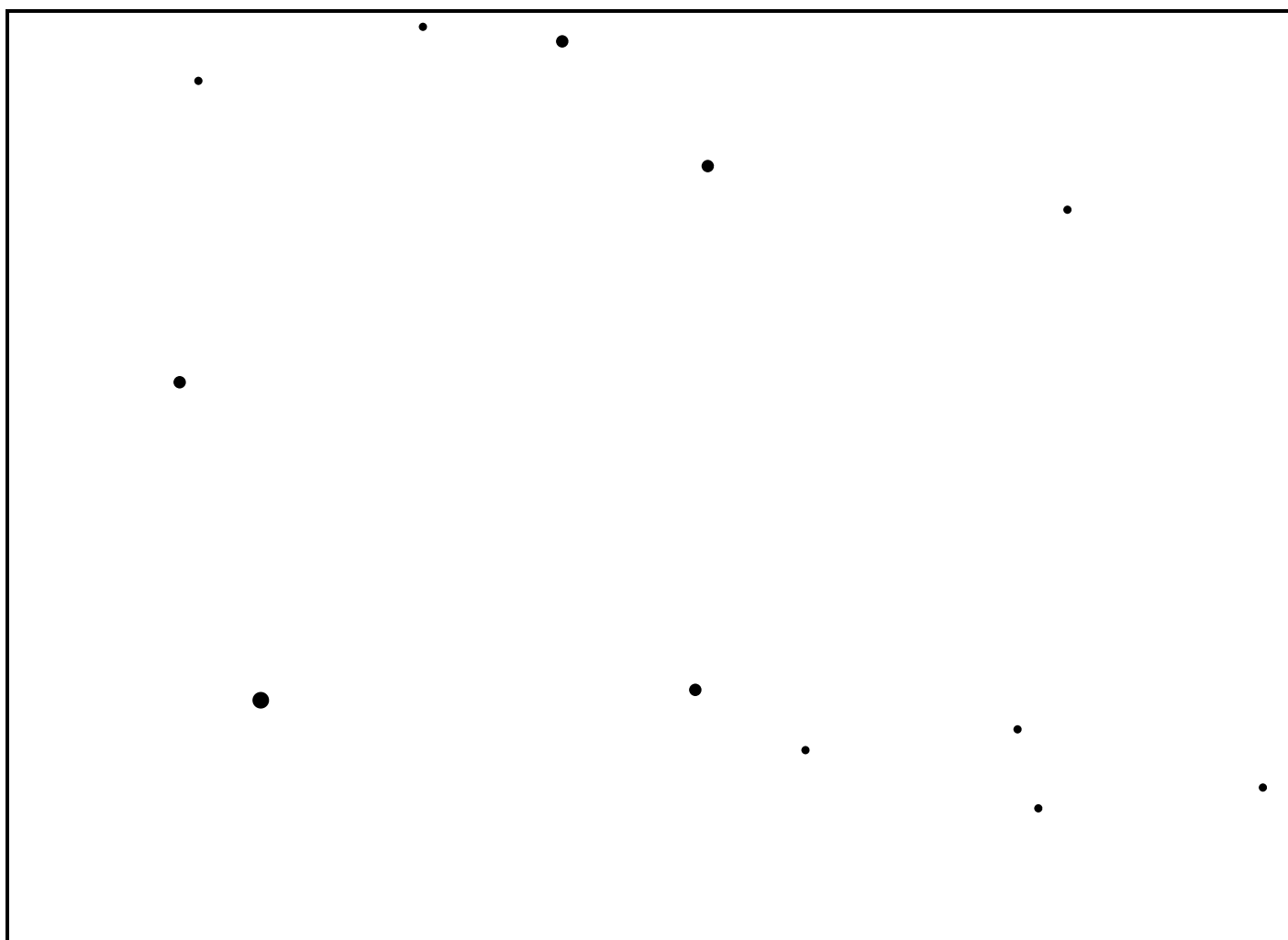
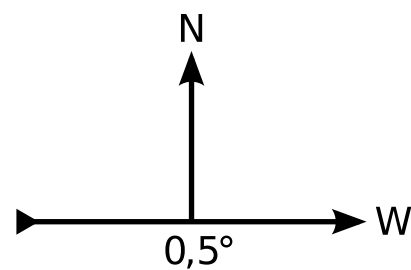
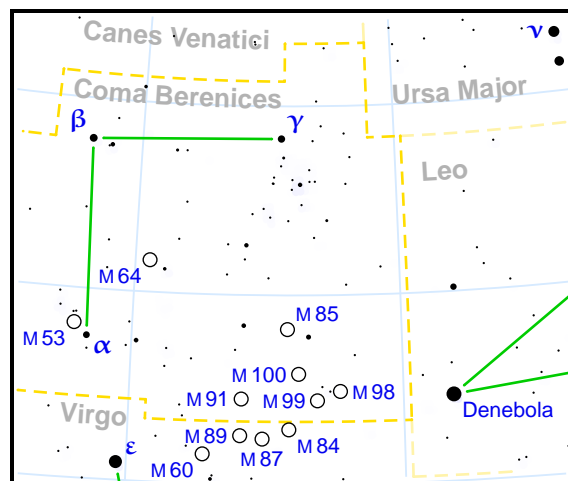
# M 83



# M 84 M 86

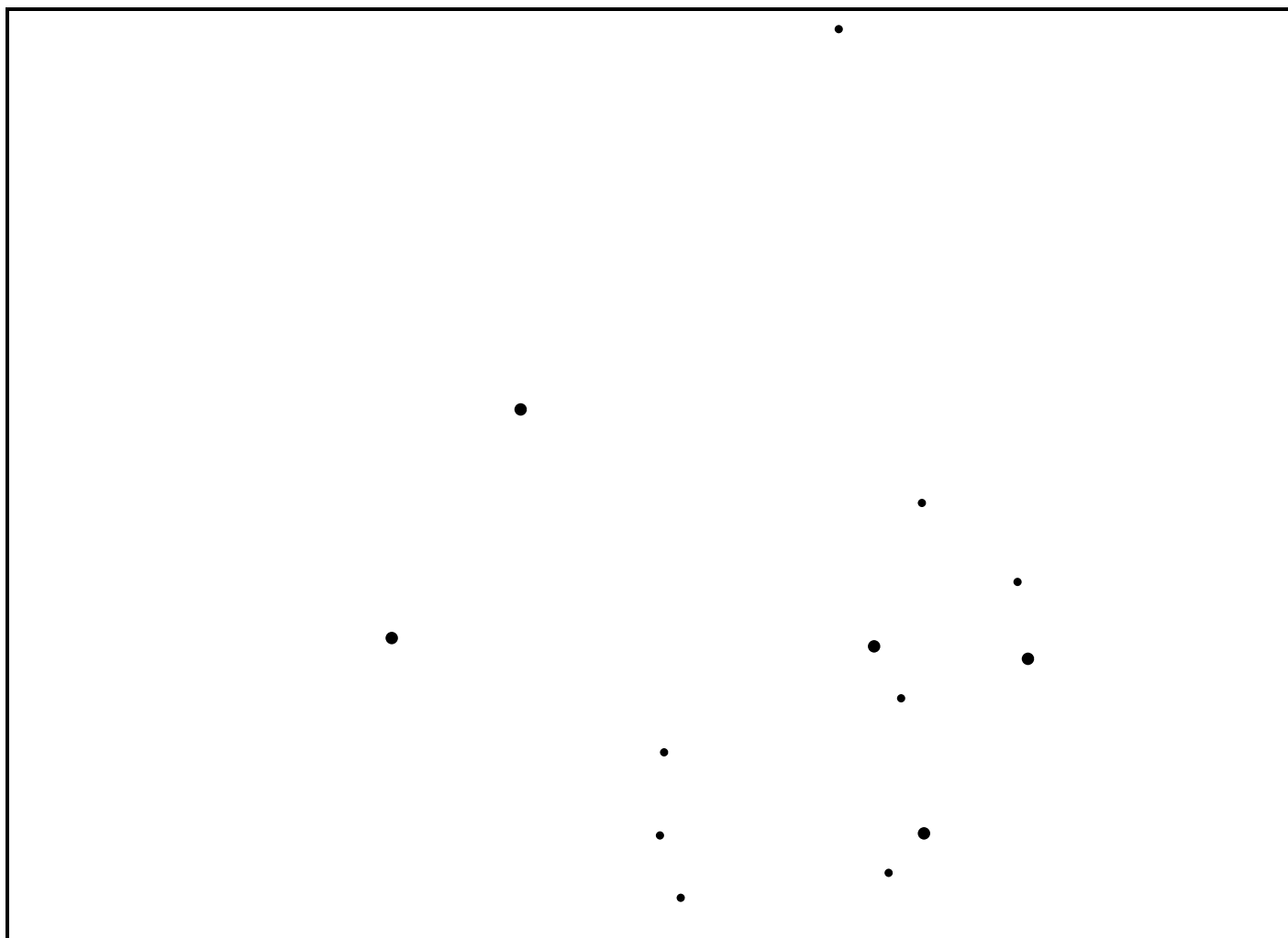
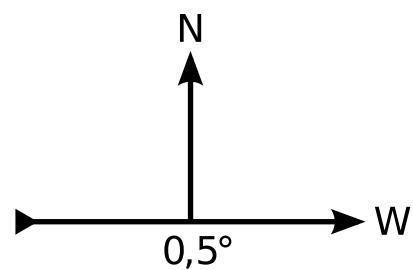
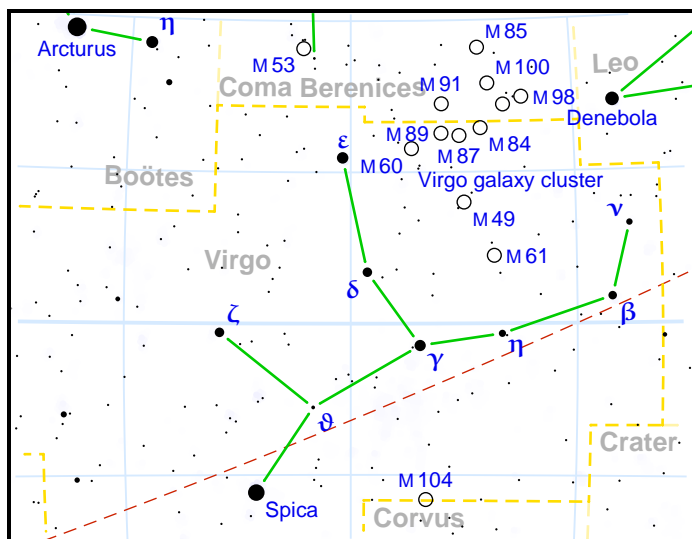


# M 85

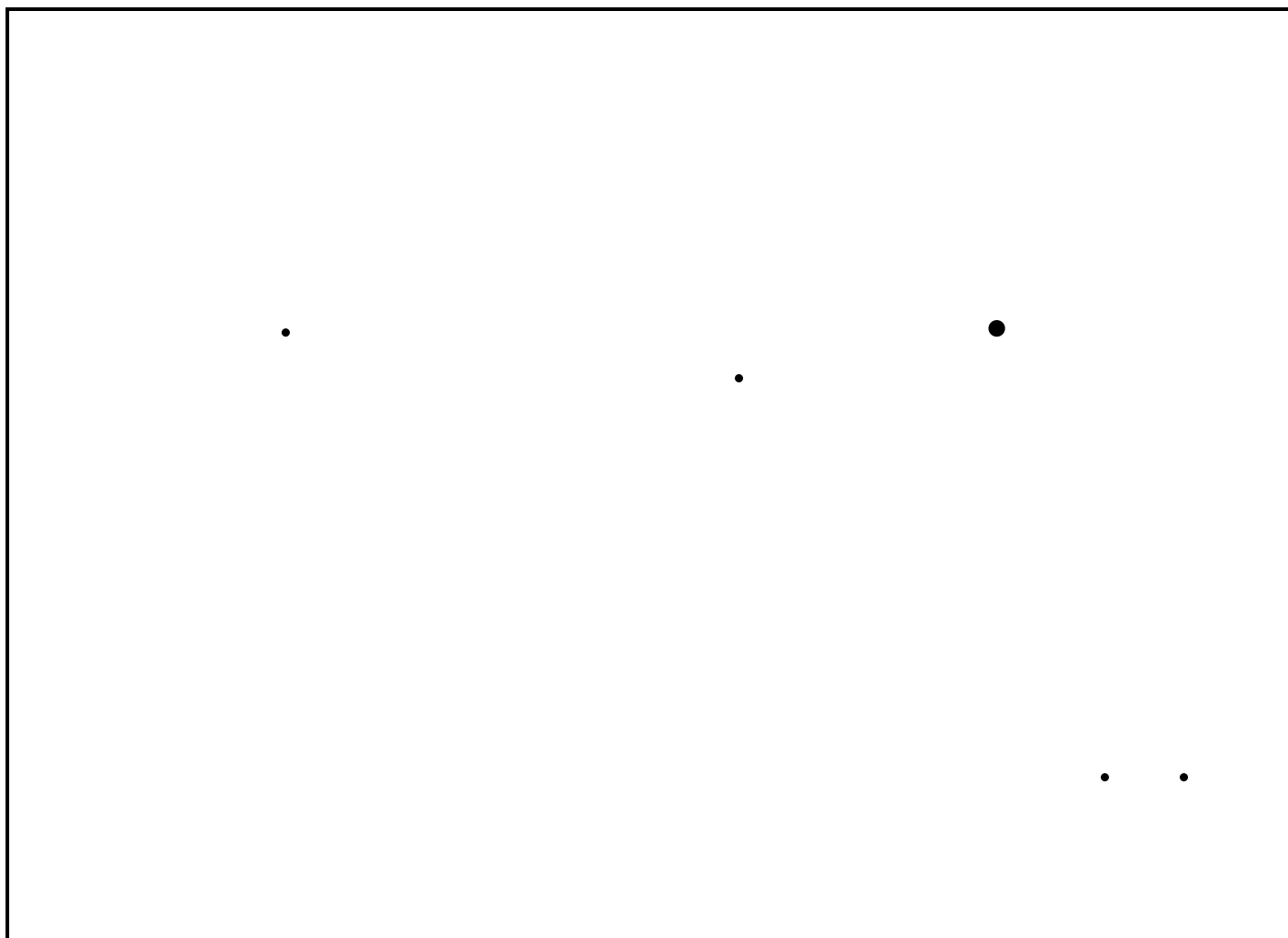
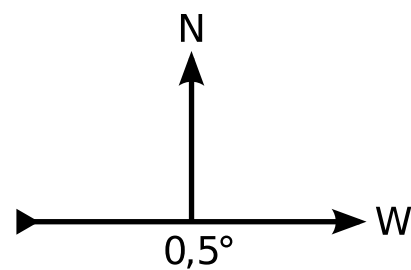
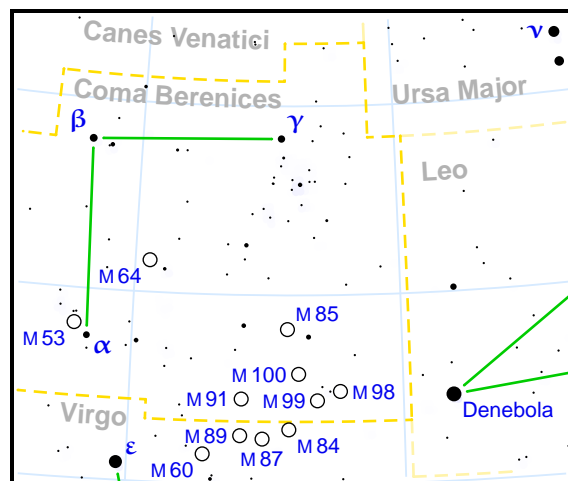




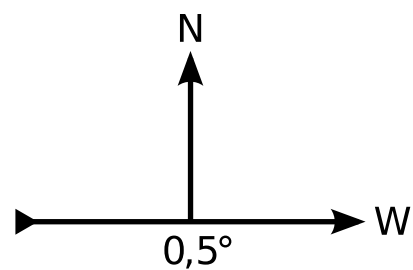
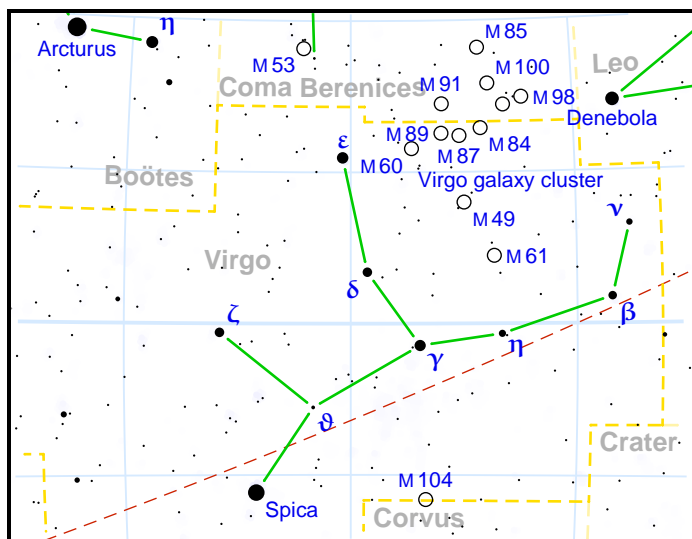
# M 87



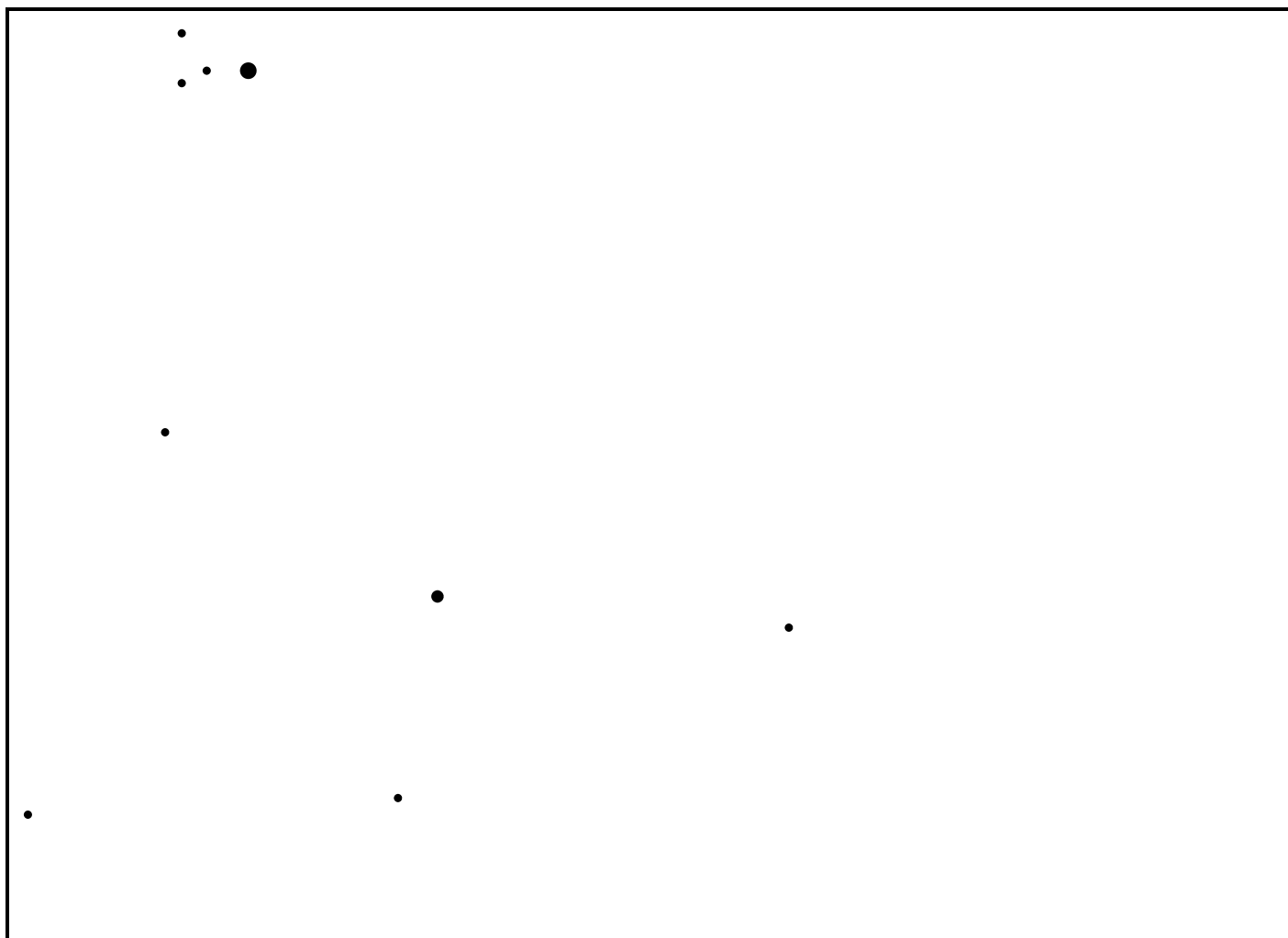
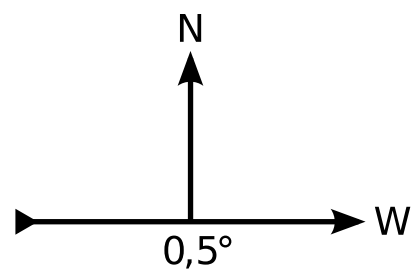
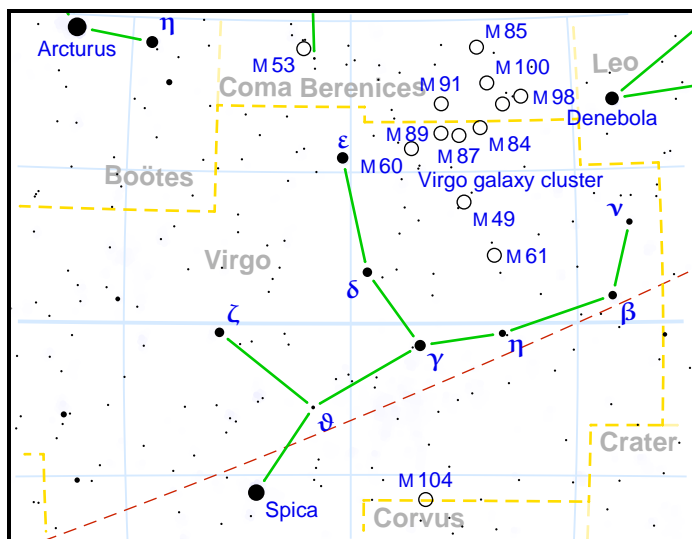
# M 88



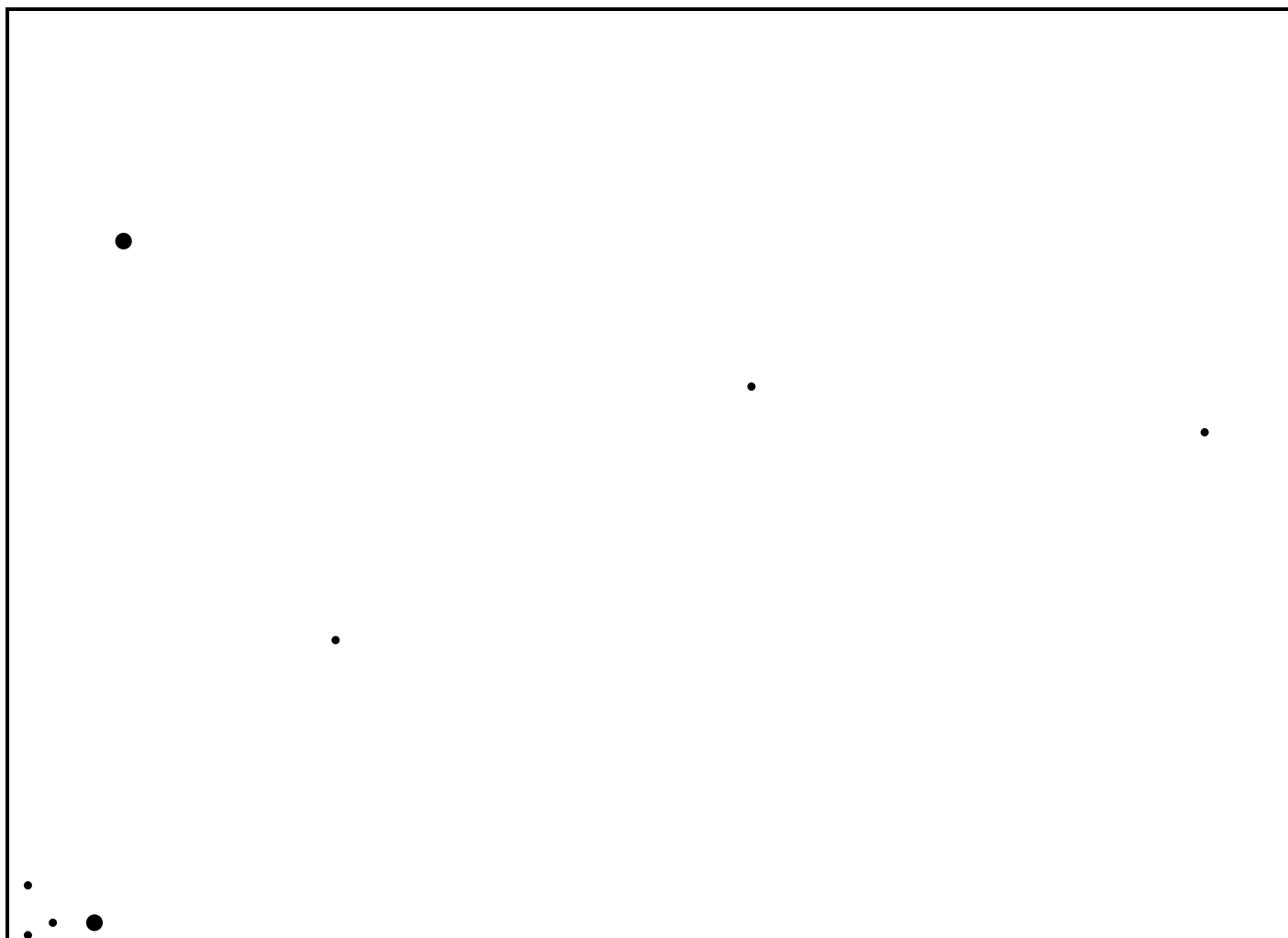
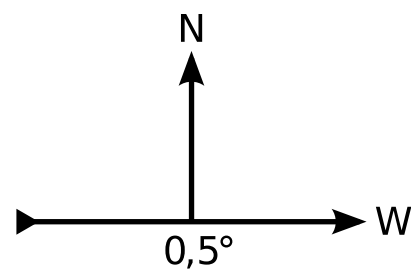
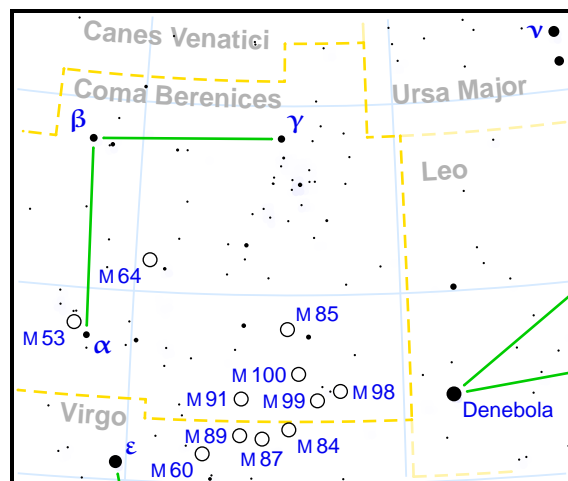
# M 89



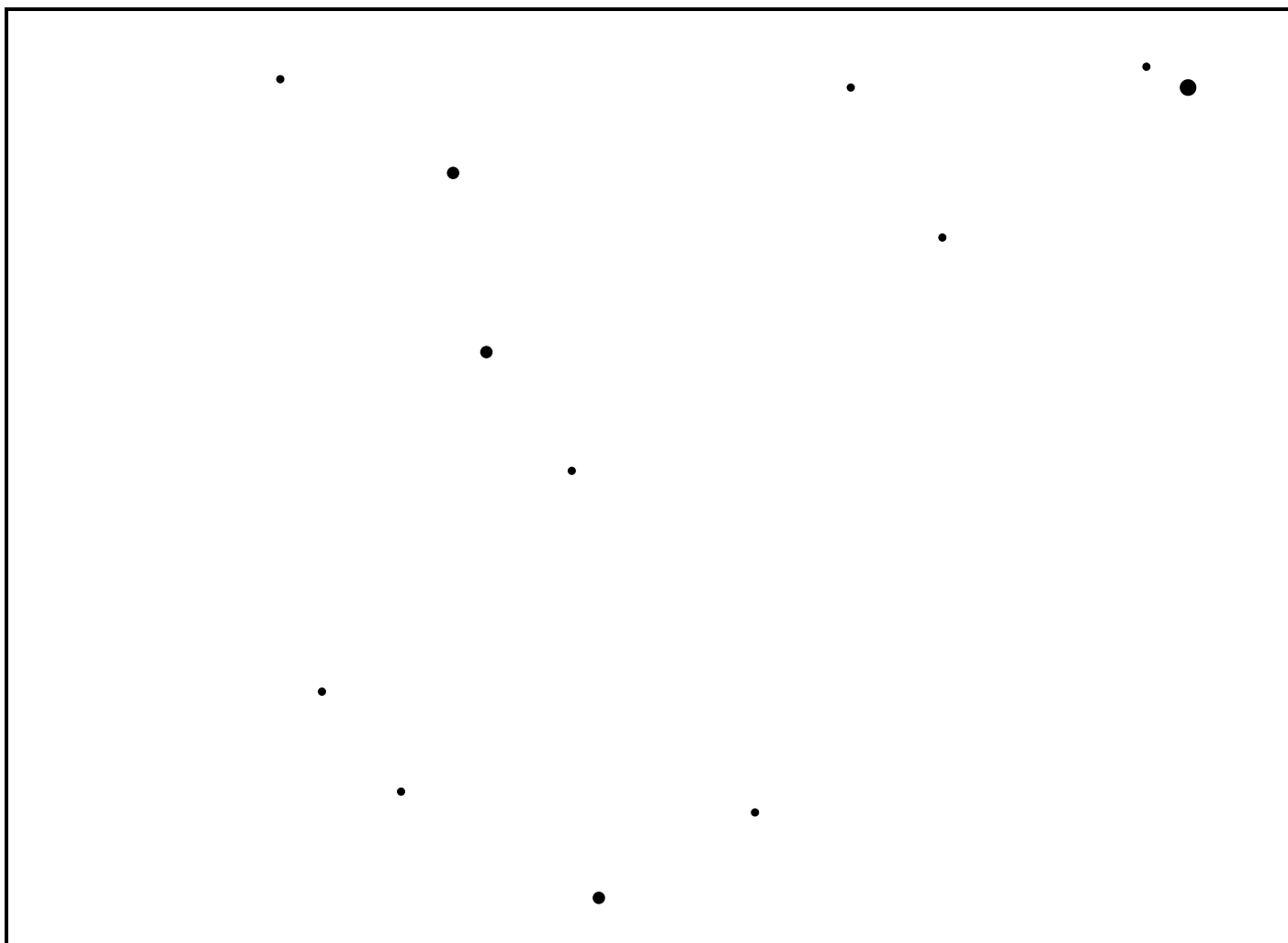
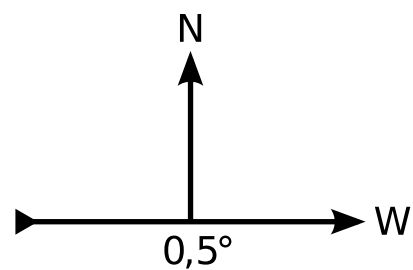
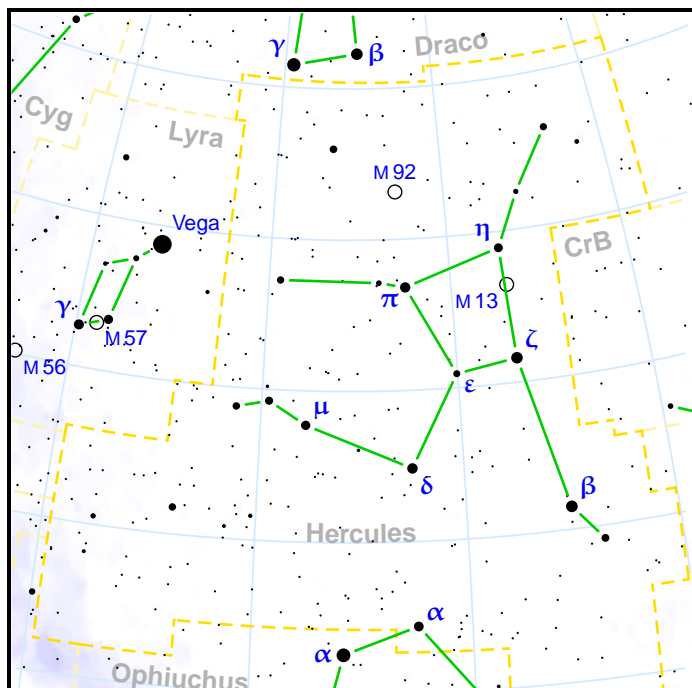
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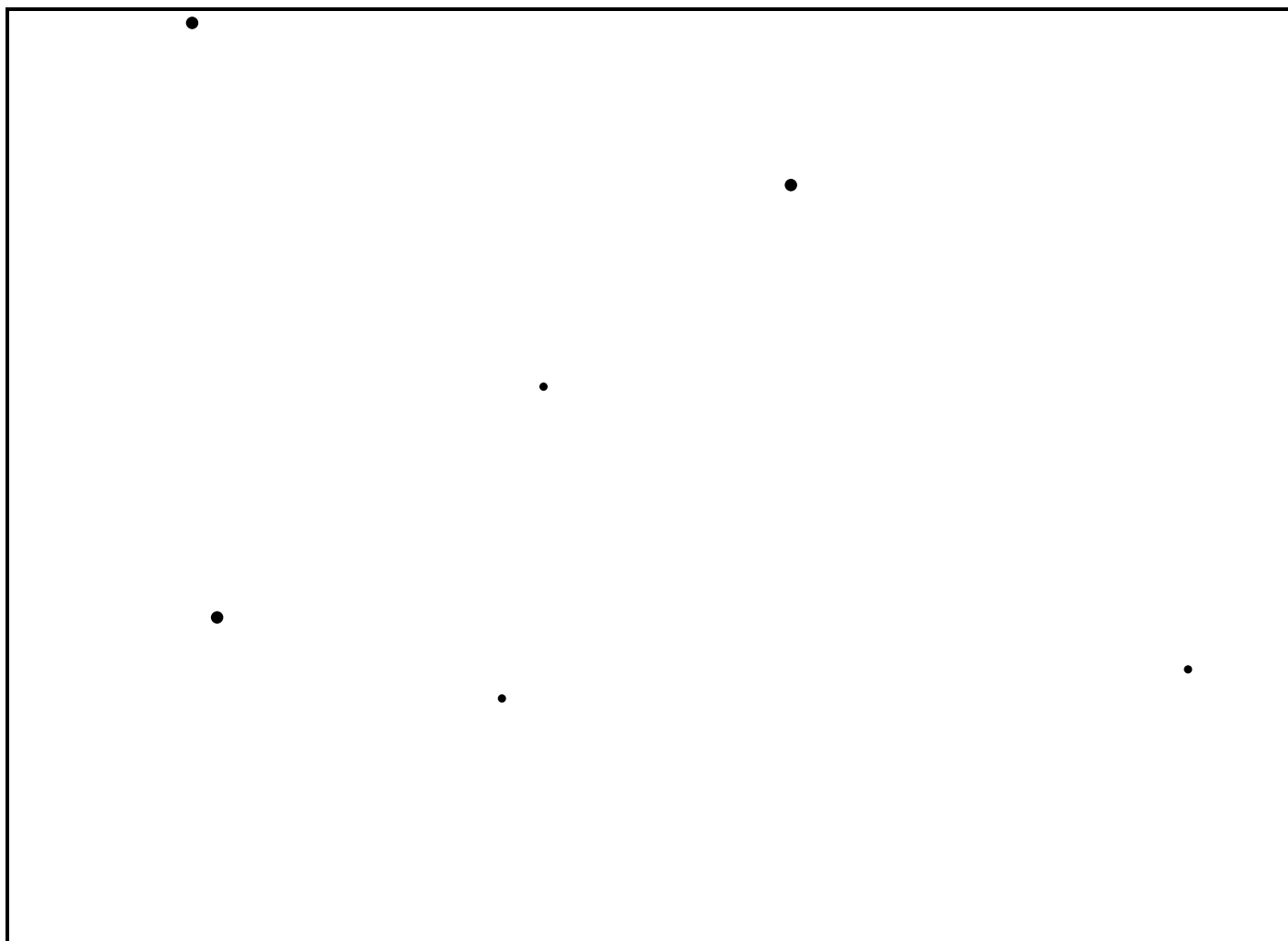
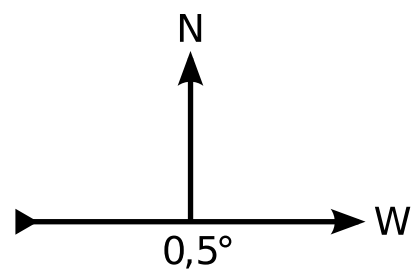
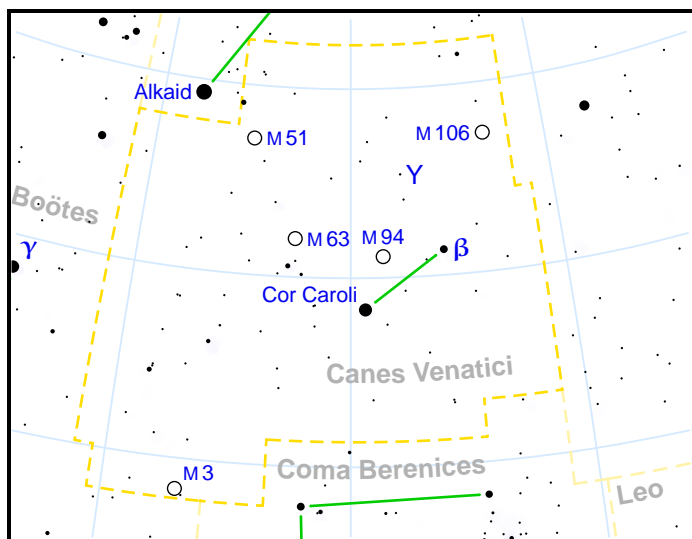
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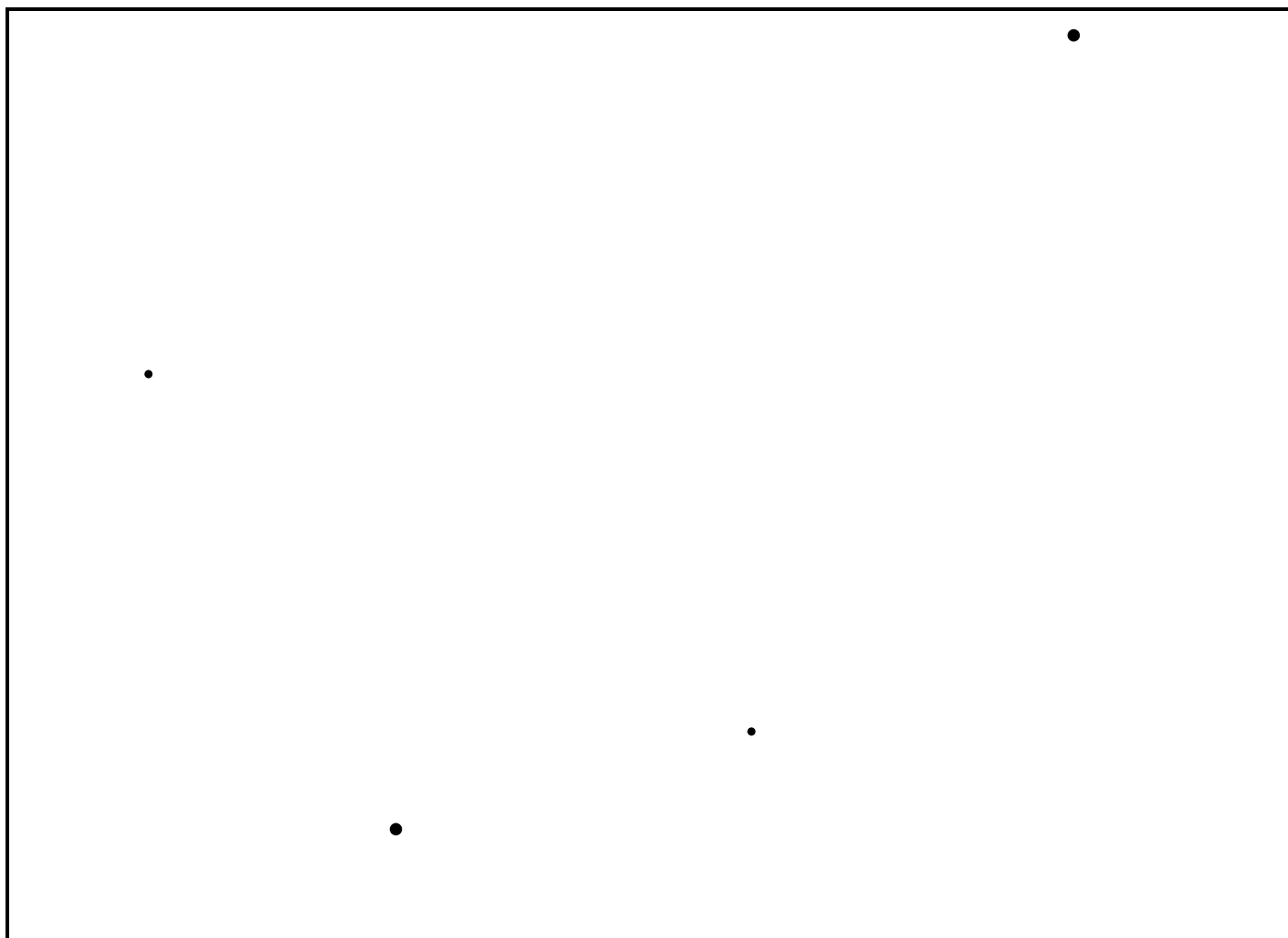
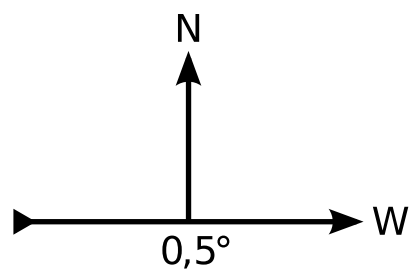
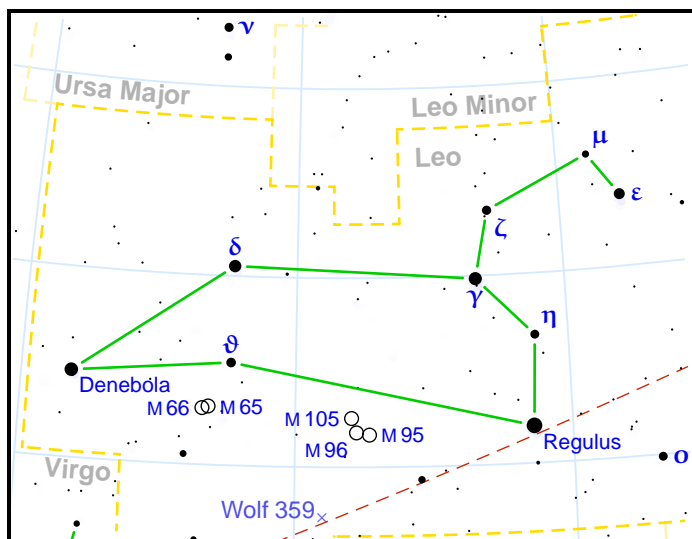
# M 92



# M 94

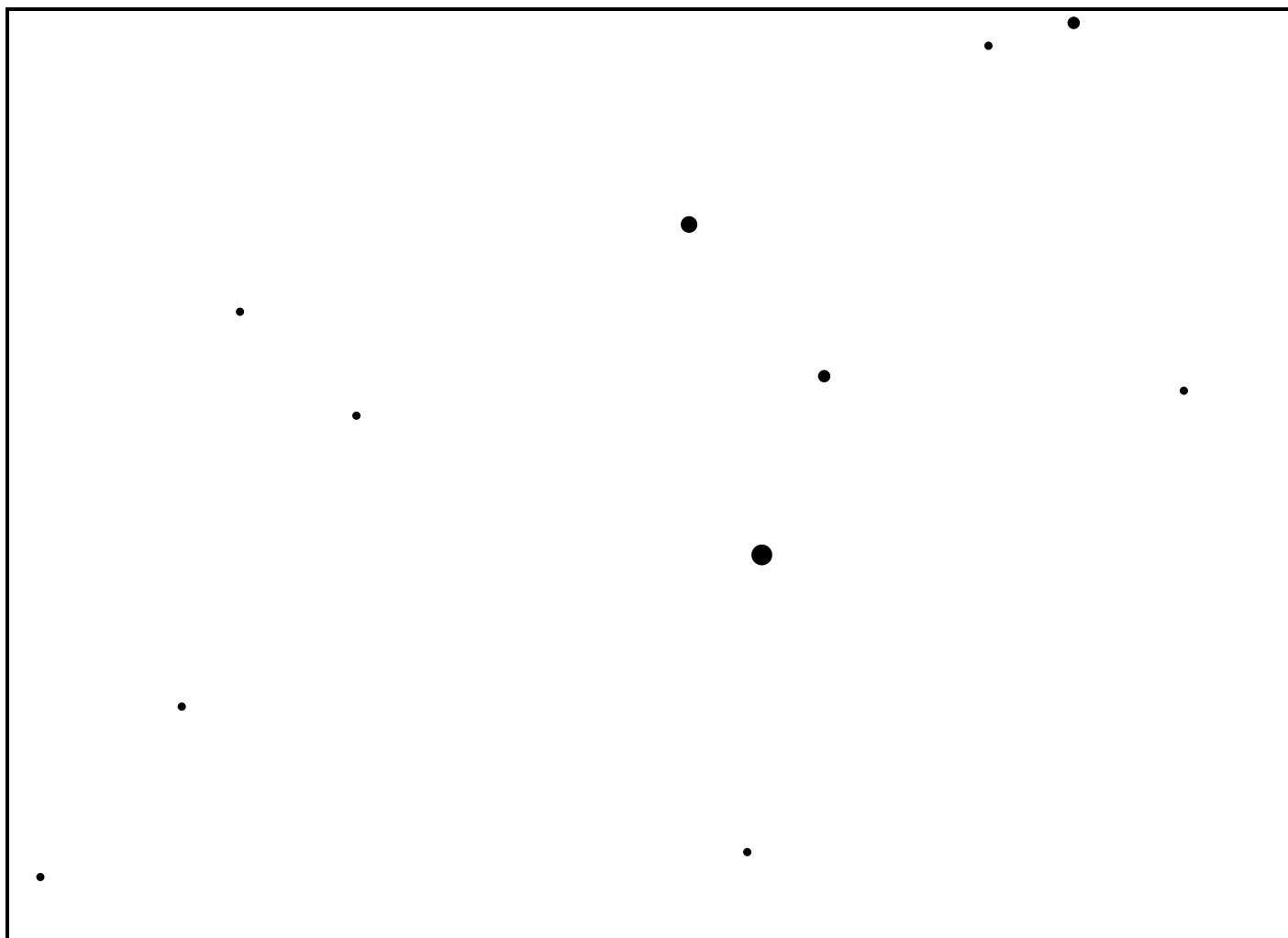
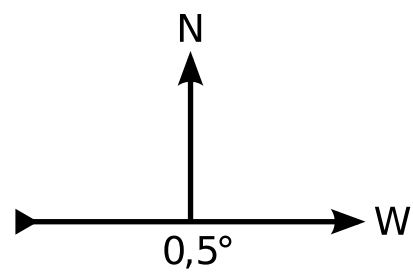
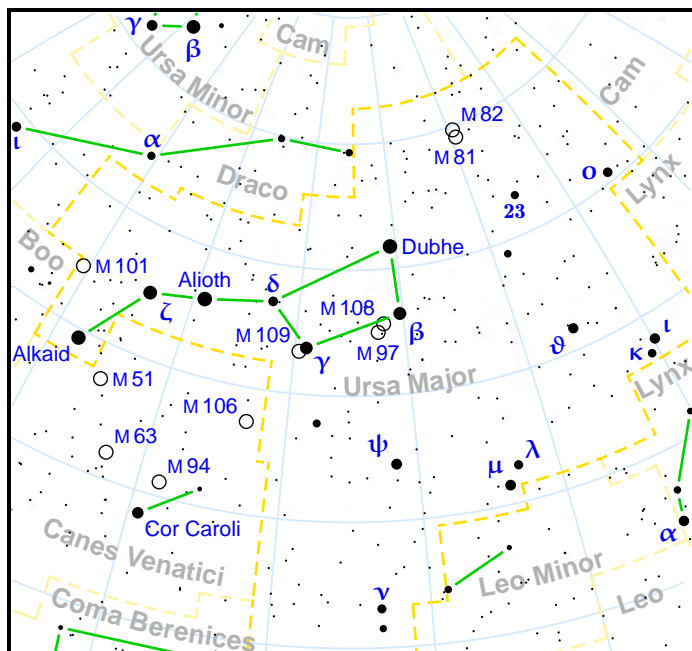


# M 95 M 96

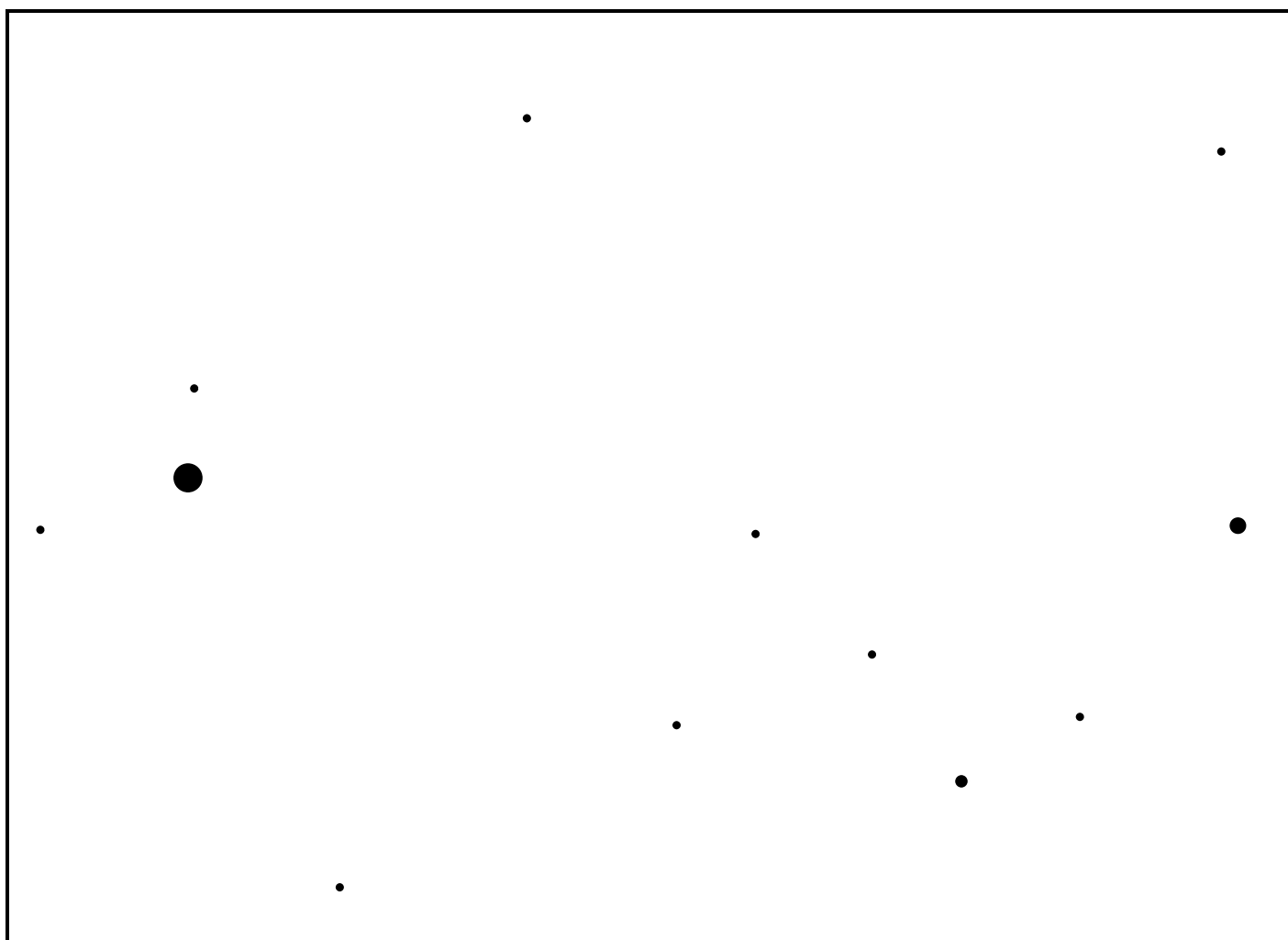
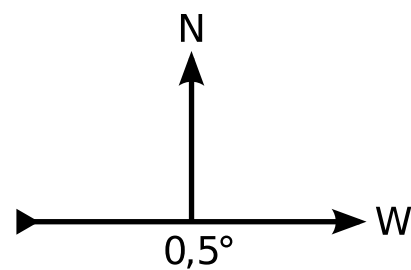
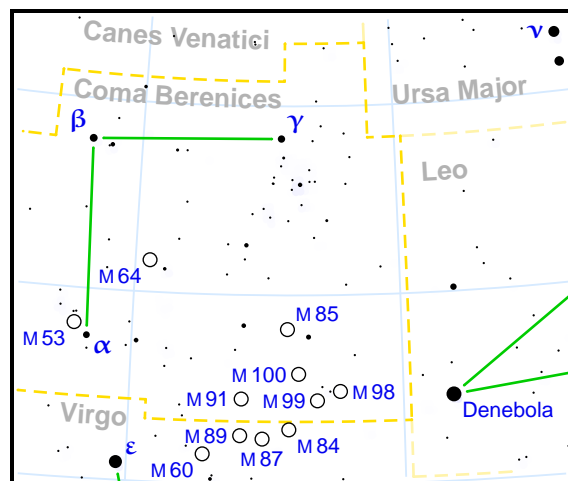




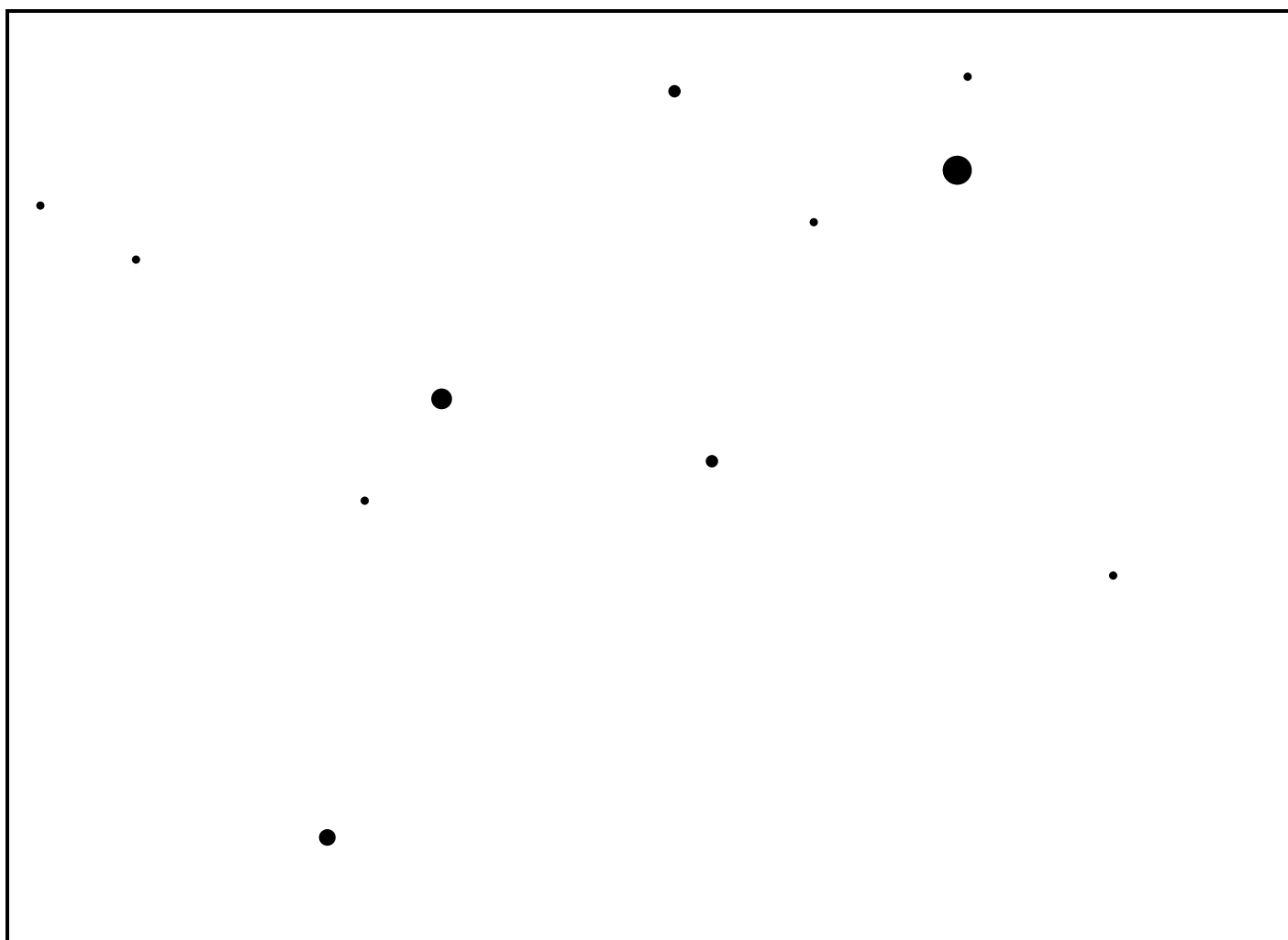
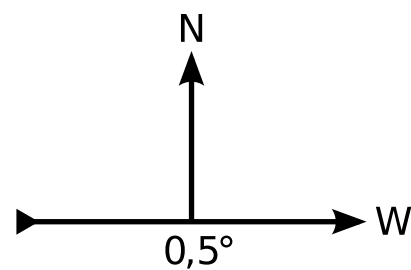
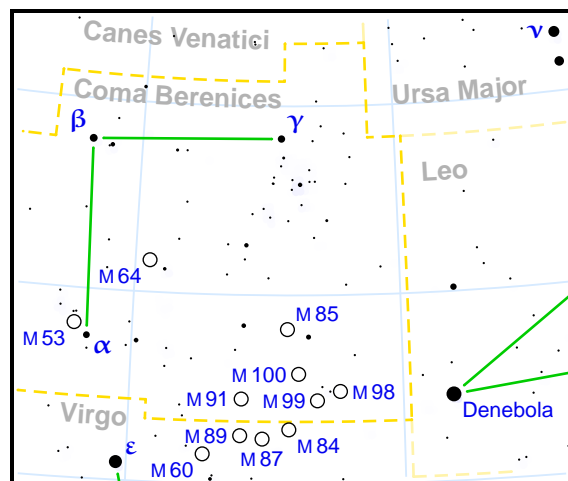
# M 97



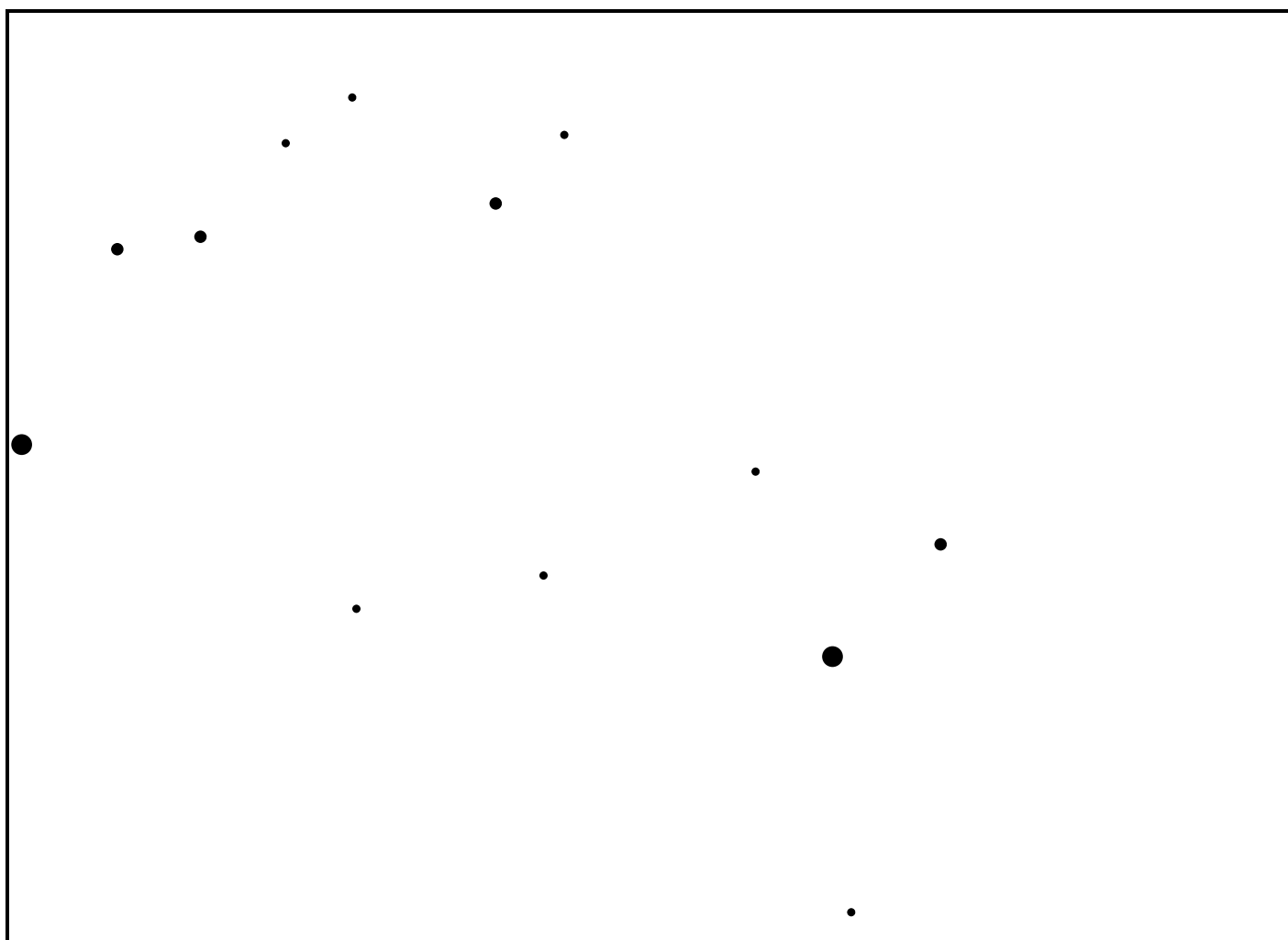
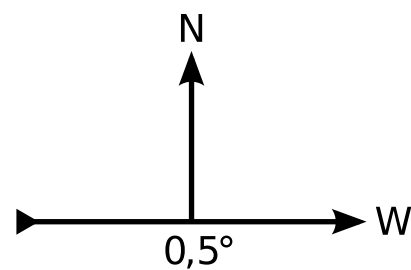
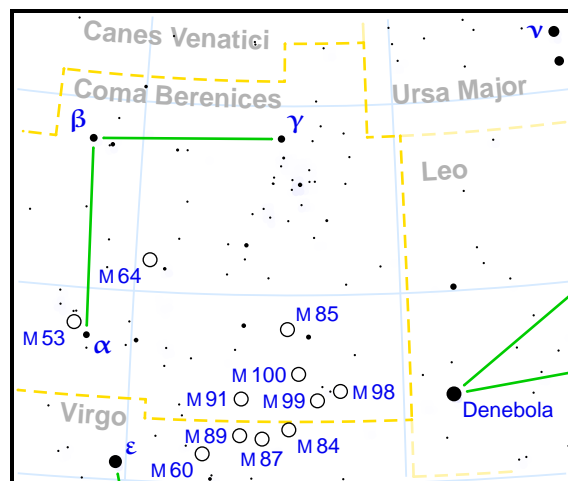
# M 98



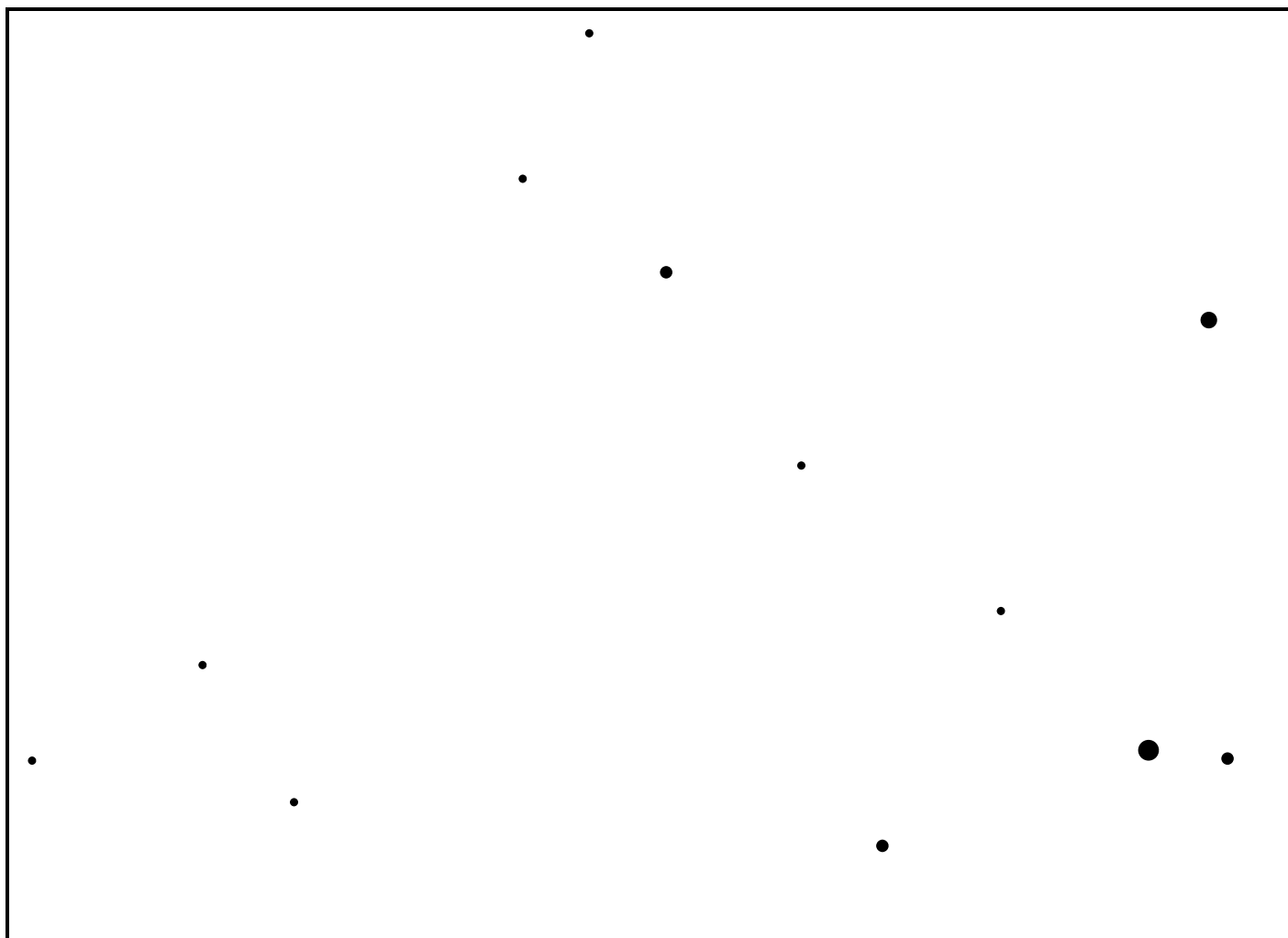
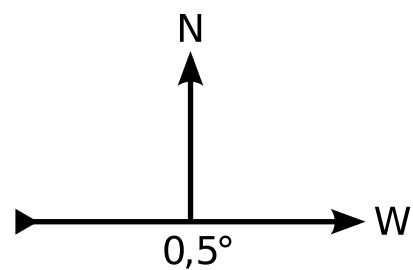
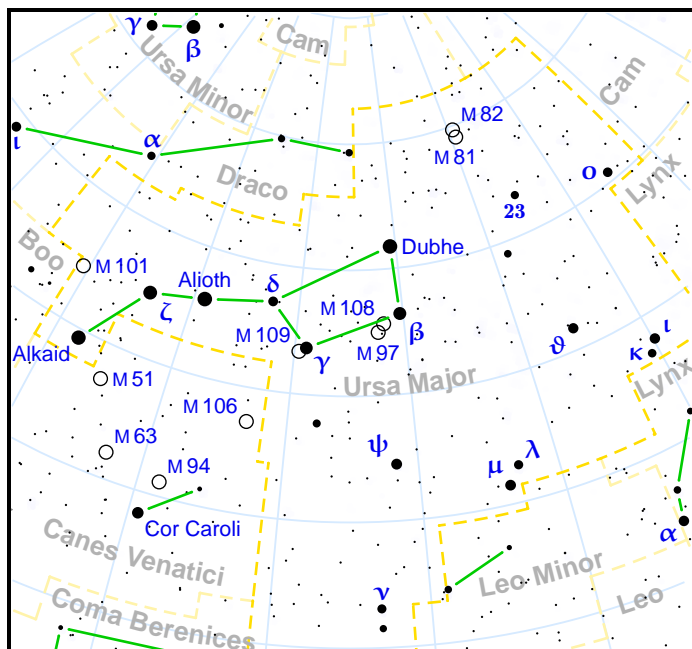
# M 99



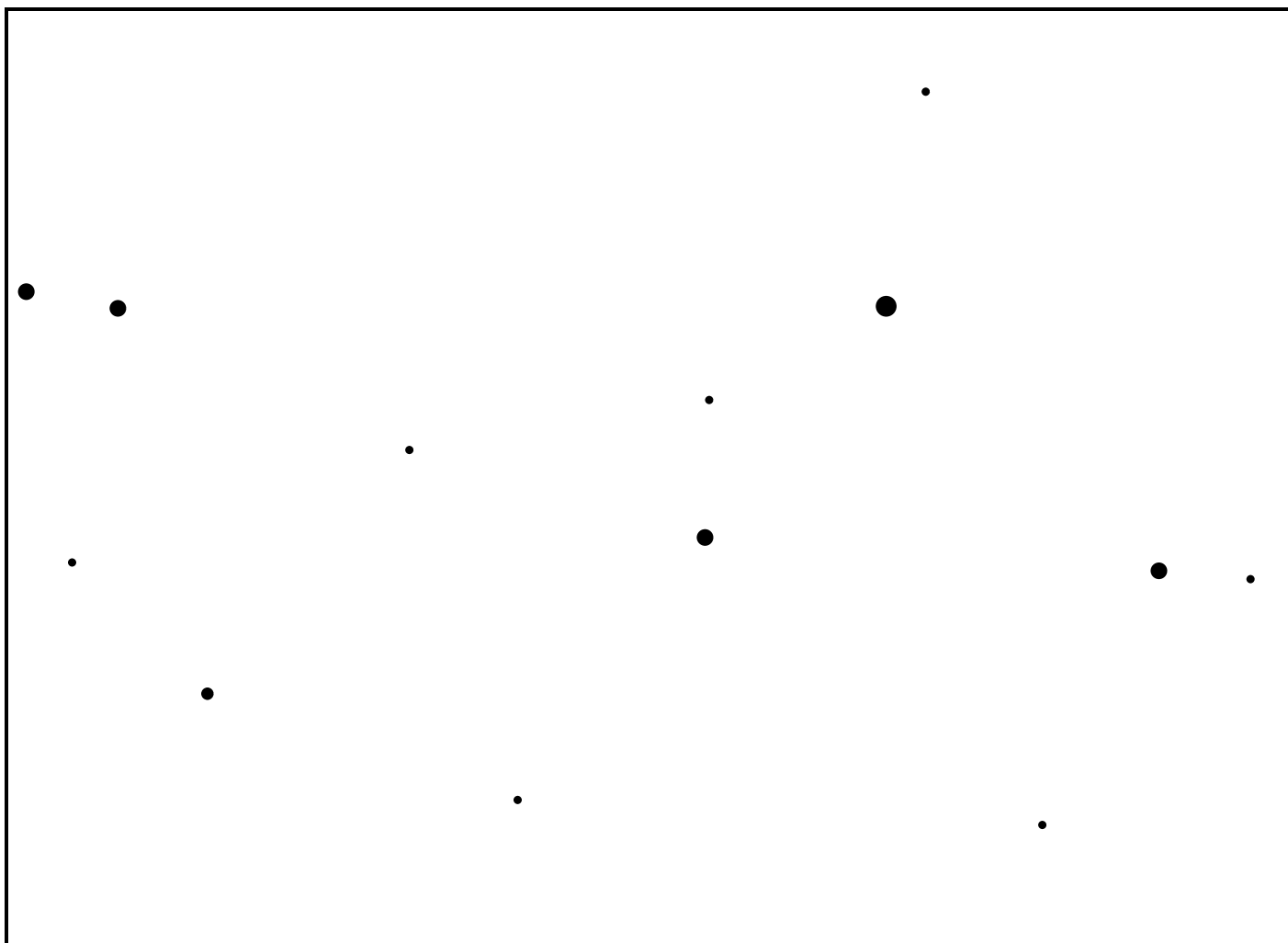
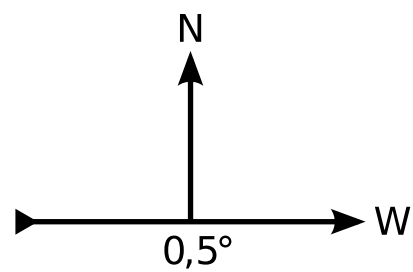
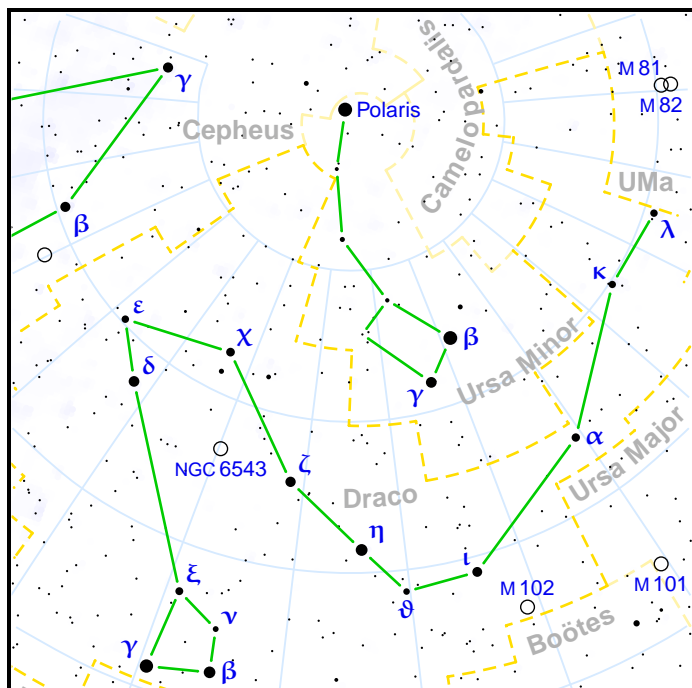
# M 100



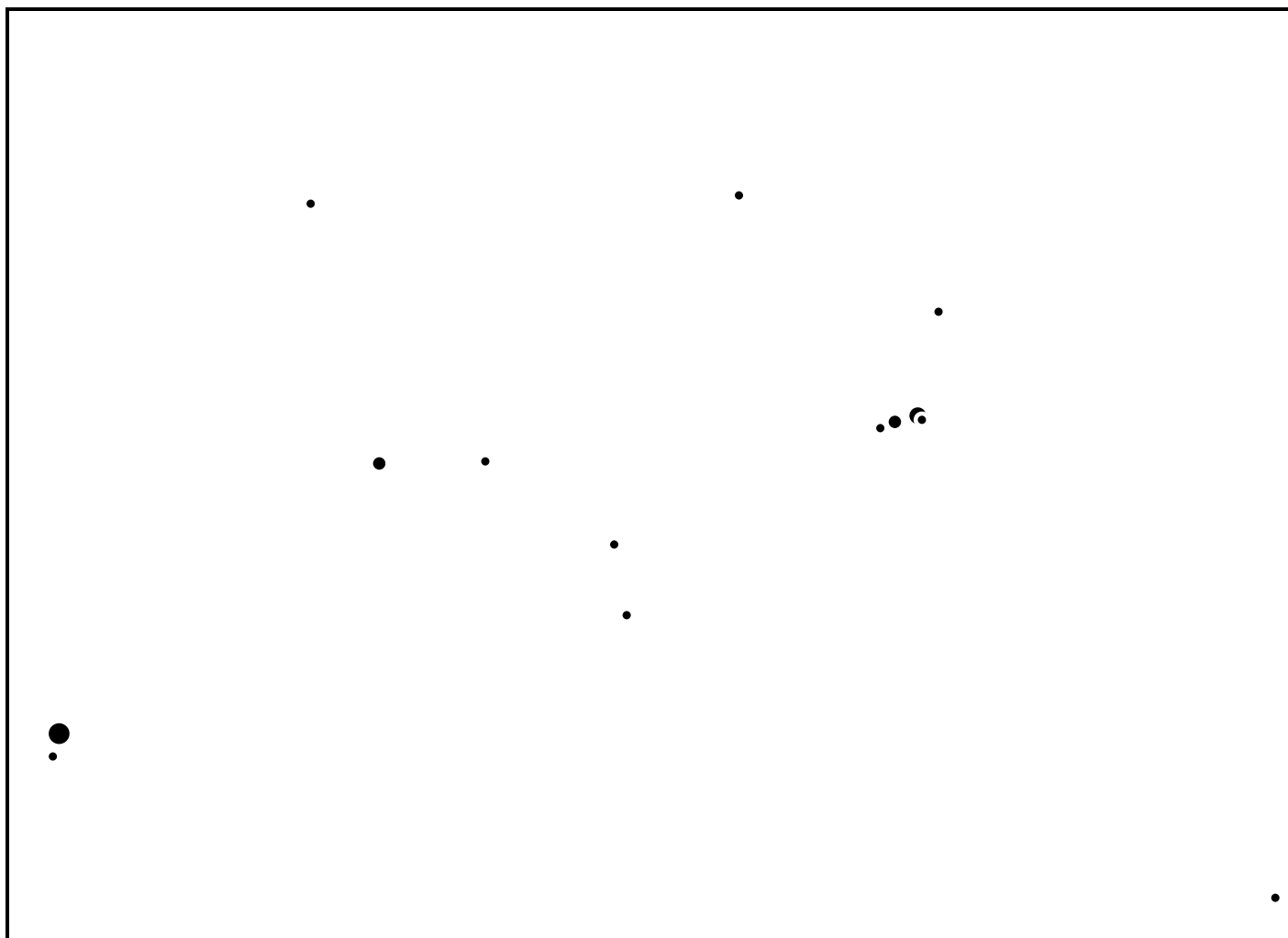
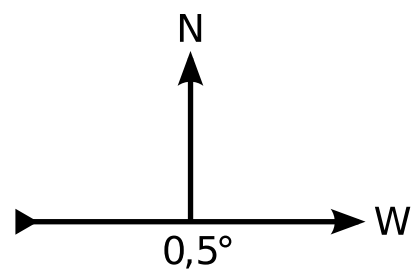
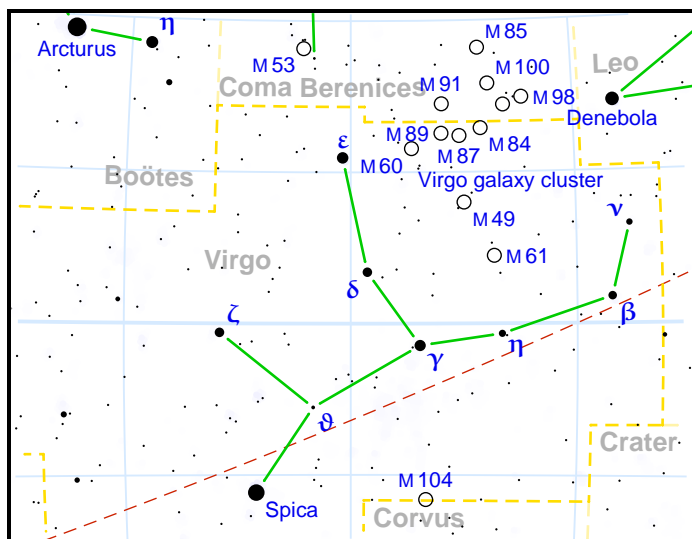
# M 101



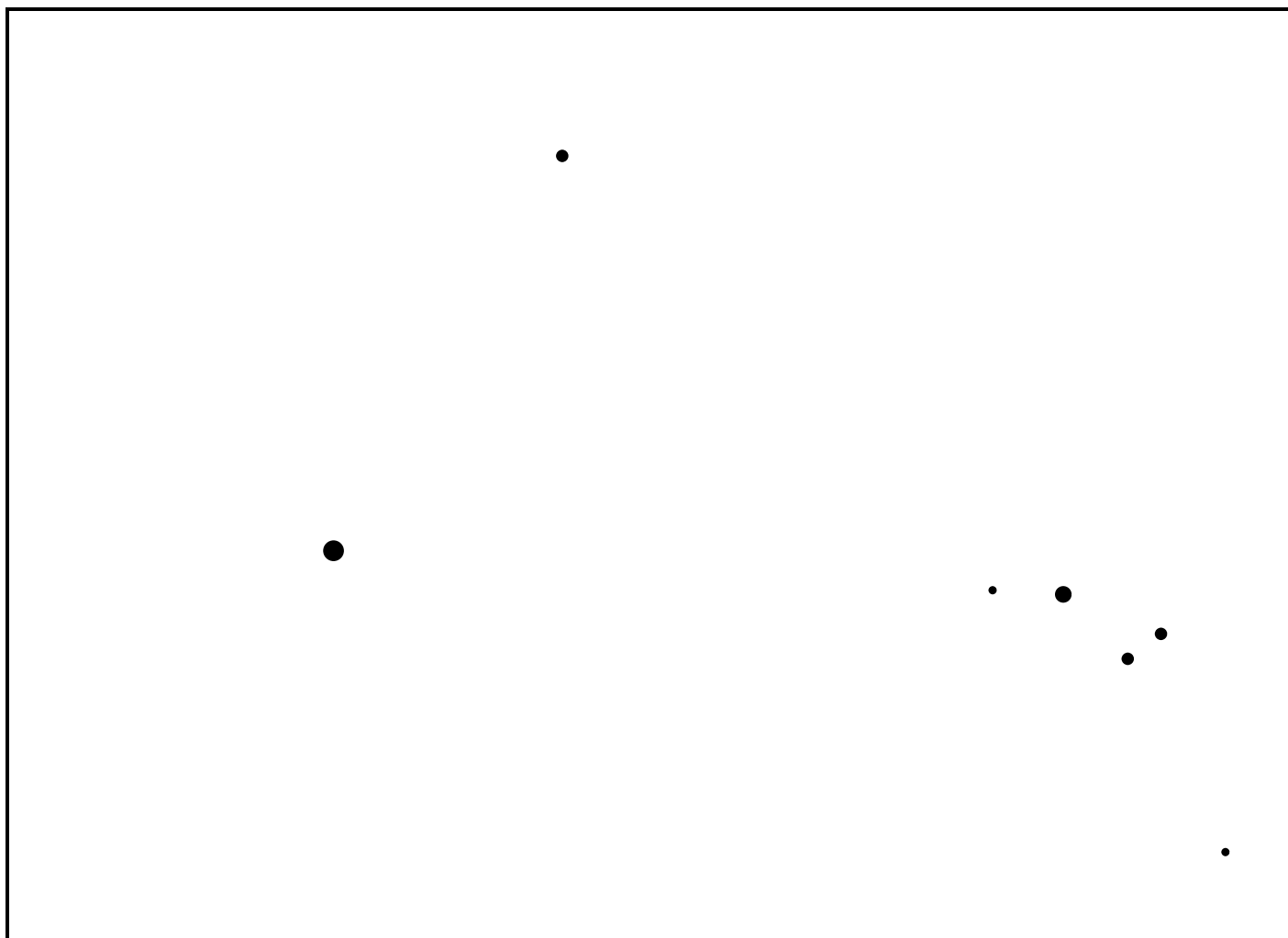
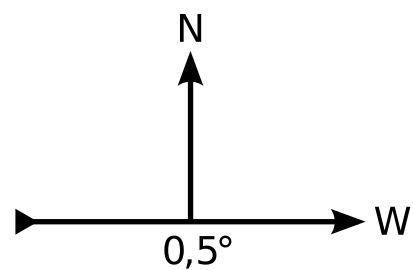
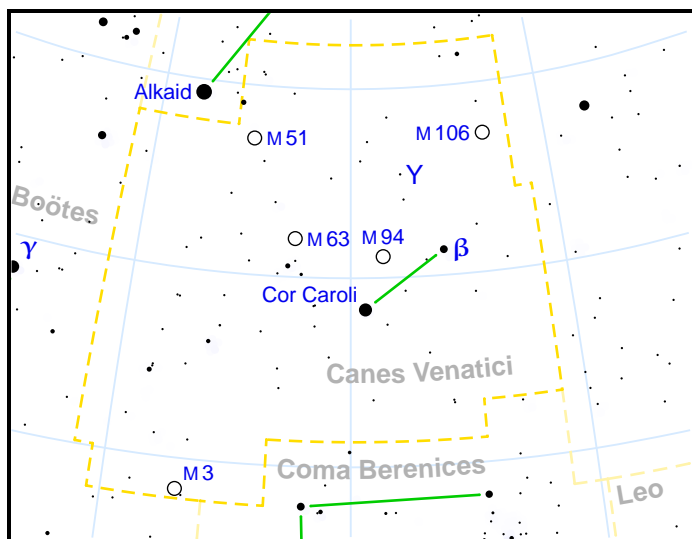
# M 102



# M 104

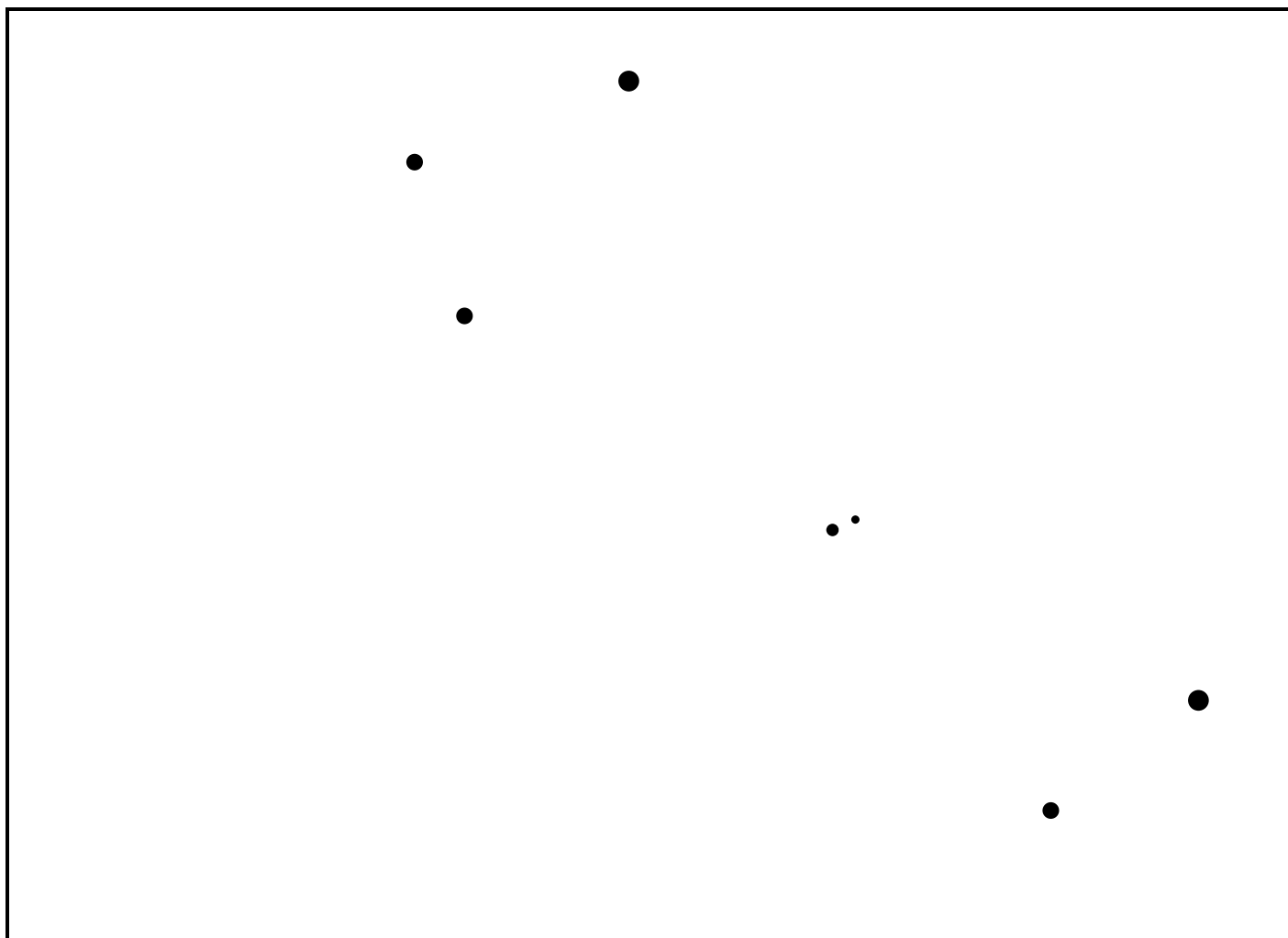
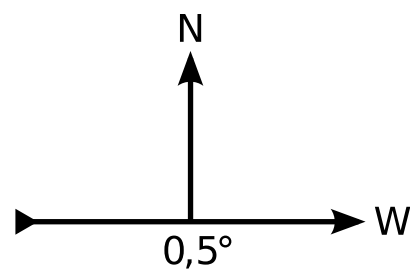
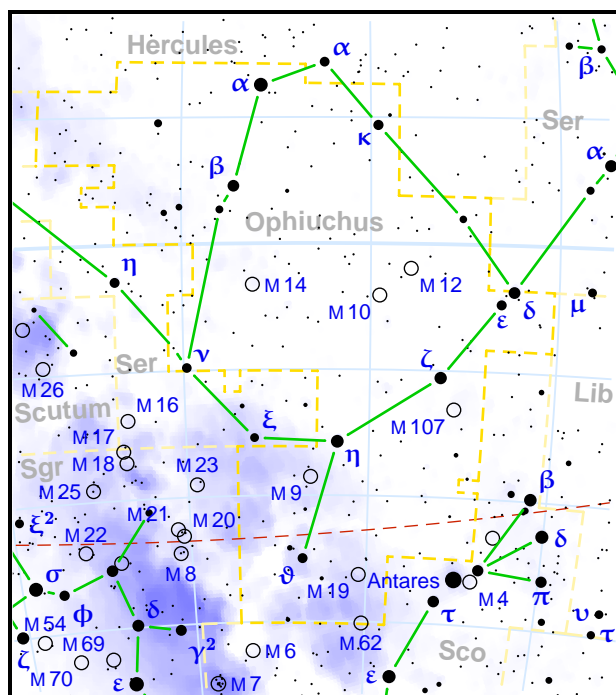


# M 106

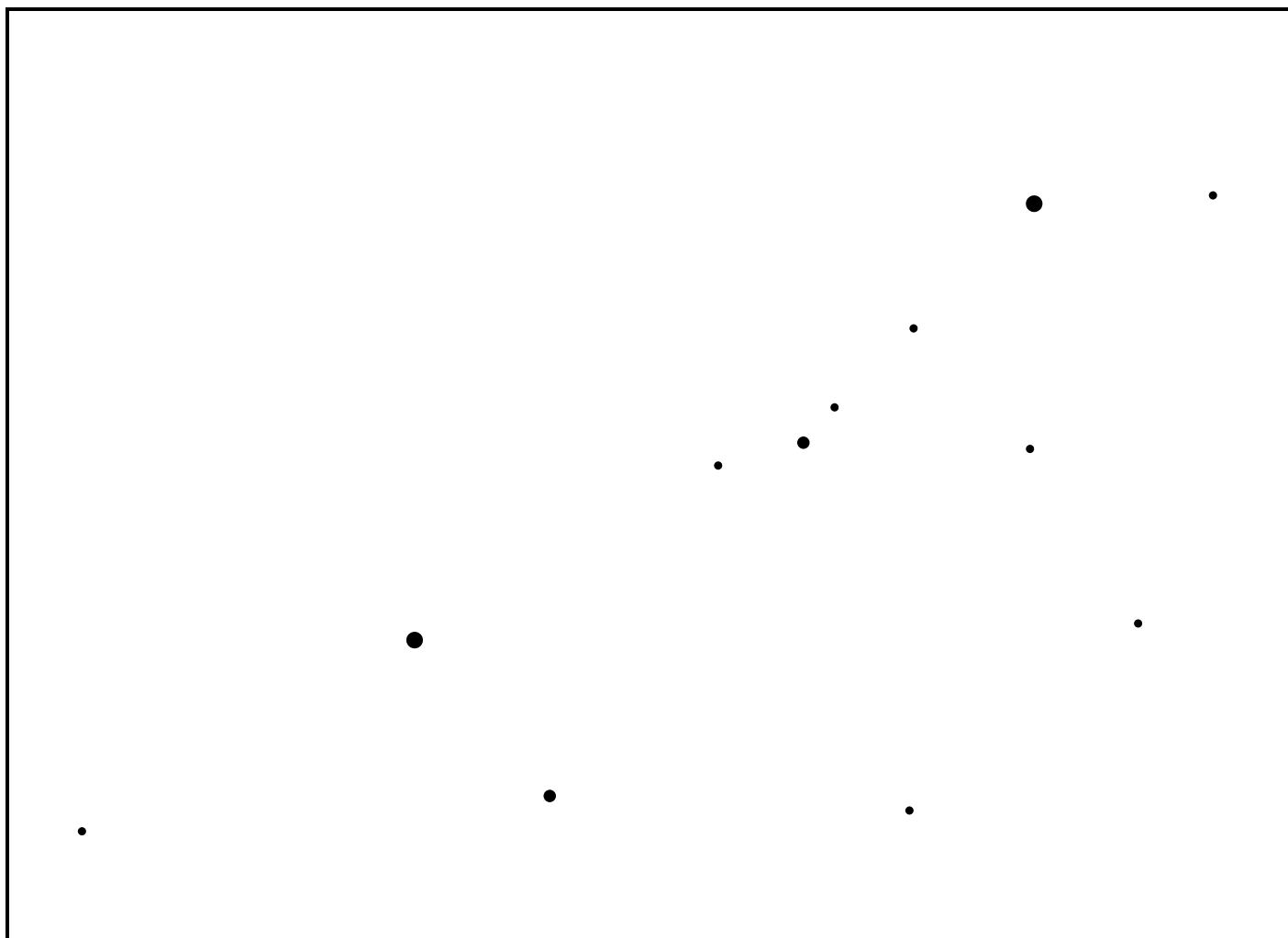
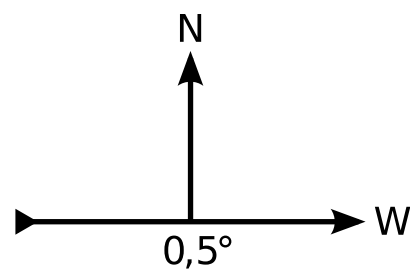
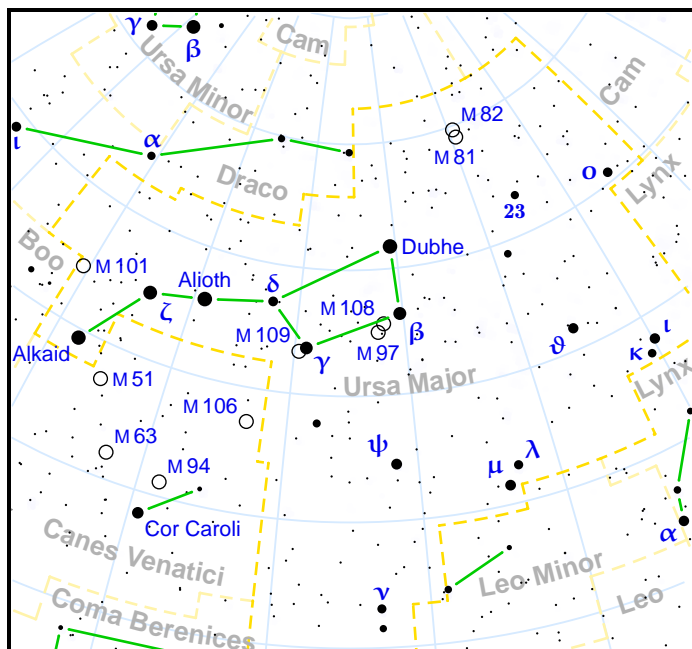




# M 107



# M 108



# M 109

