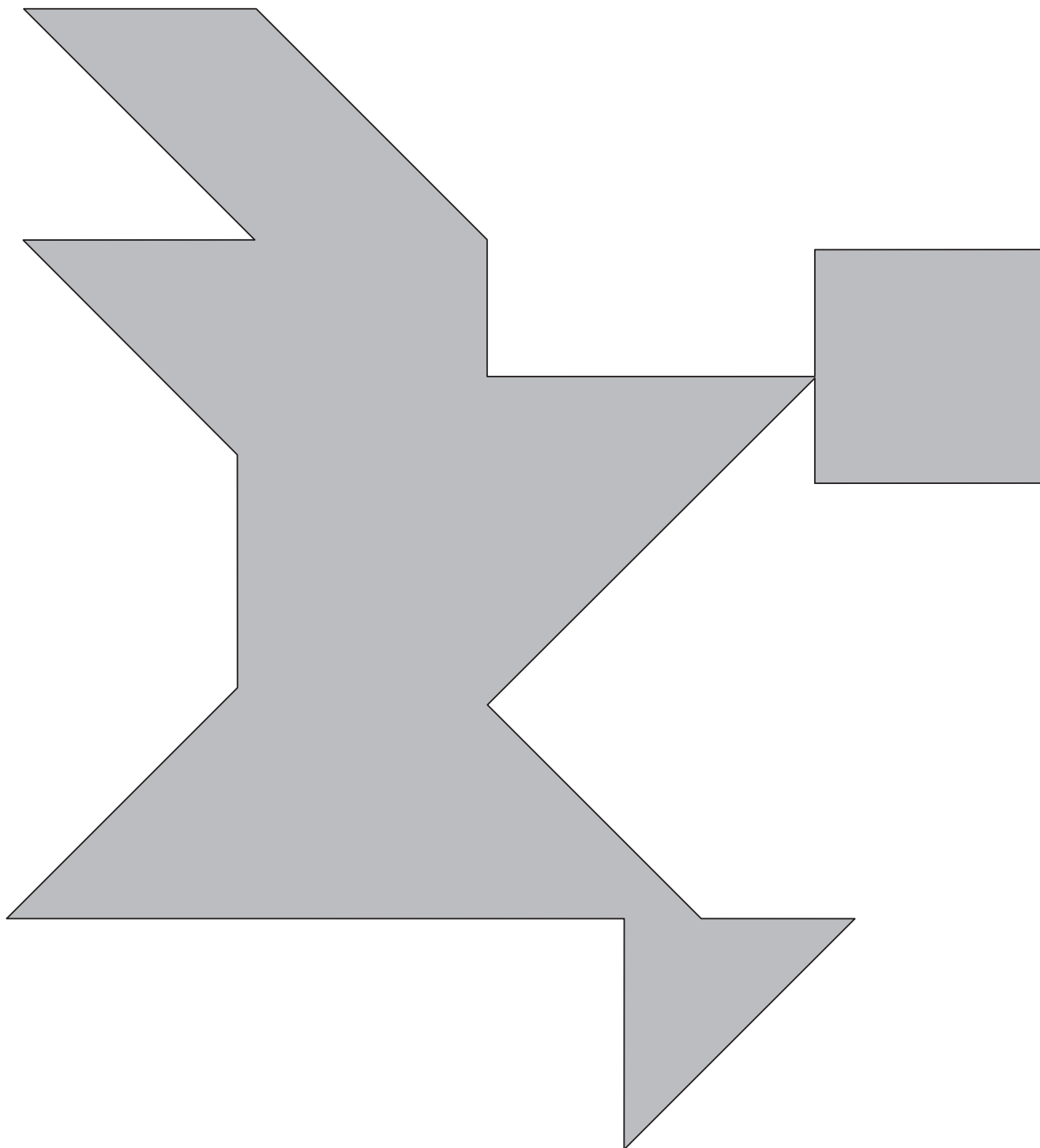
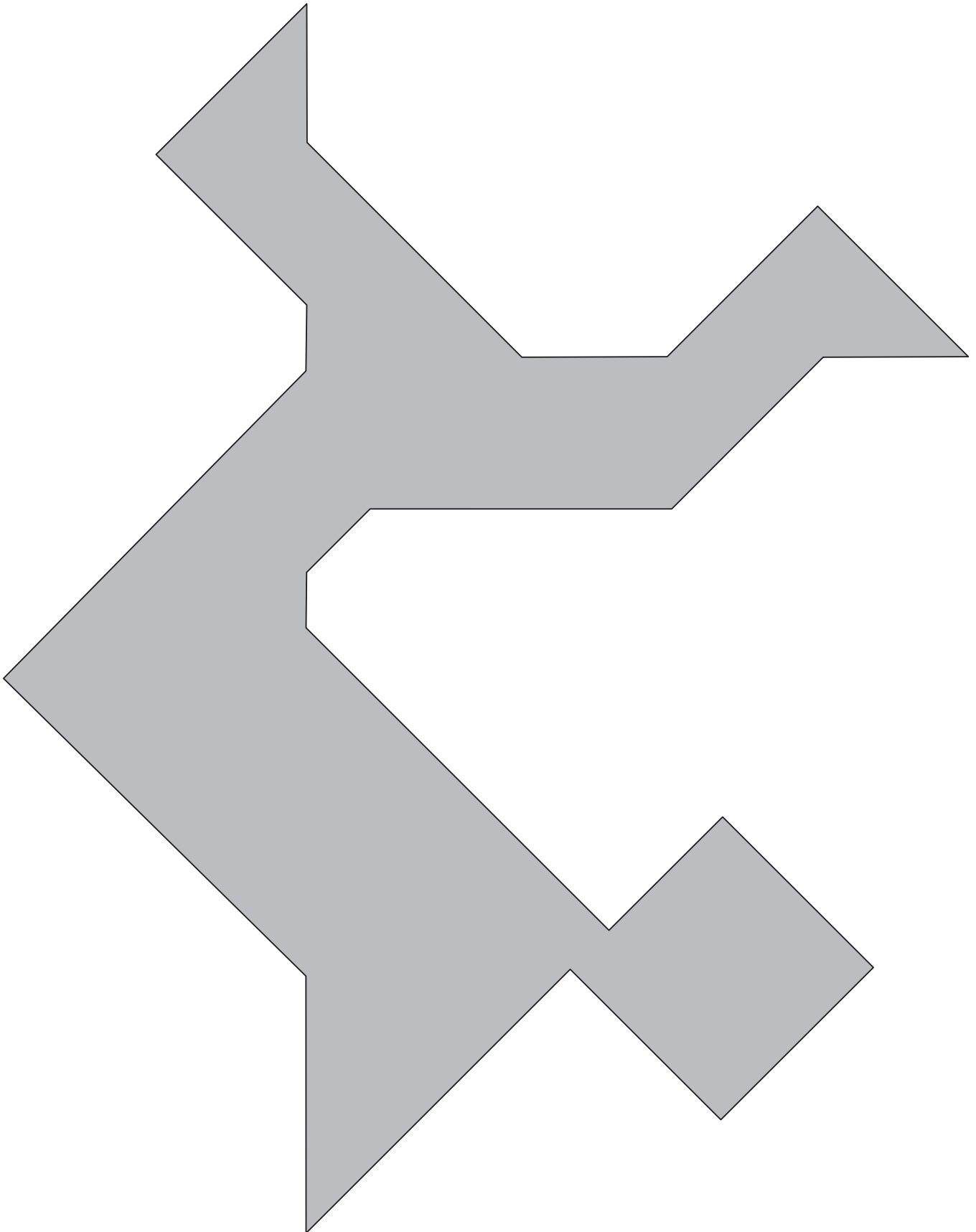


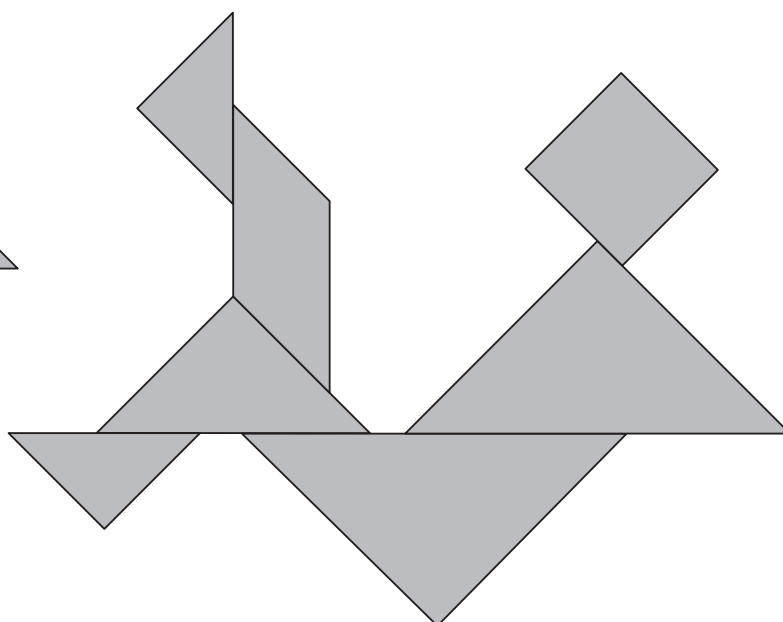
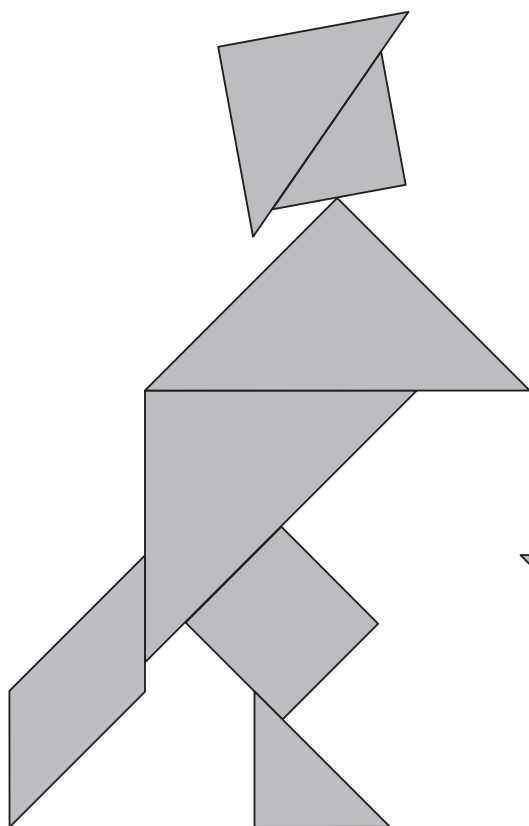
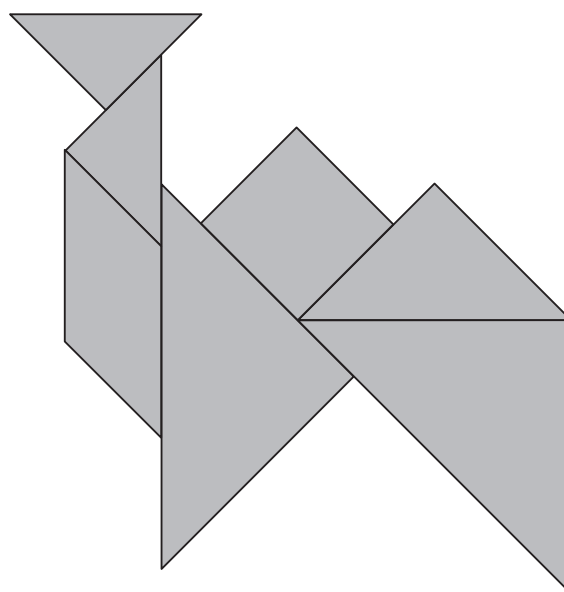
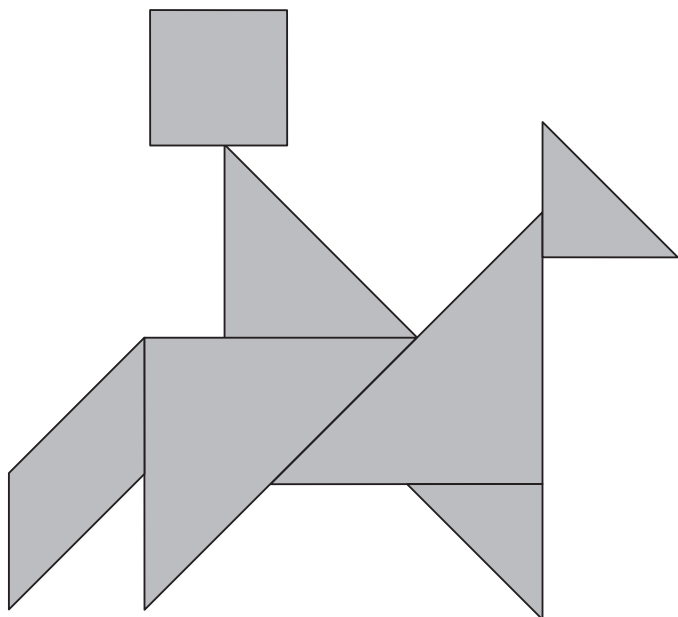
Tangrammyndir 5



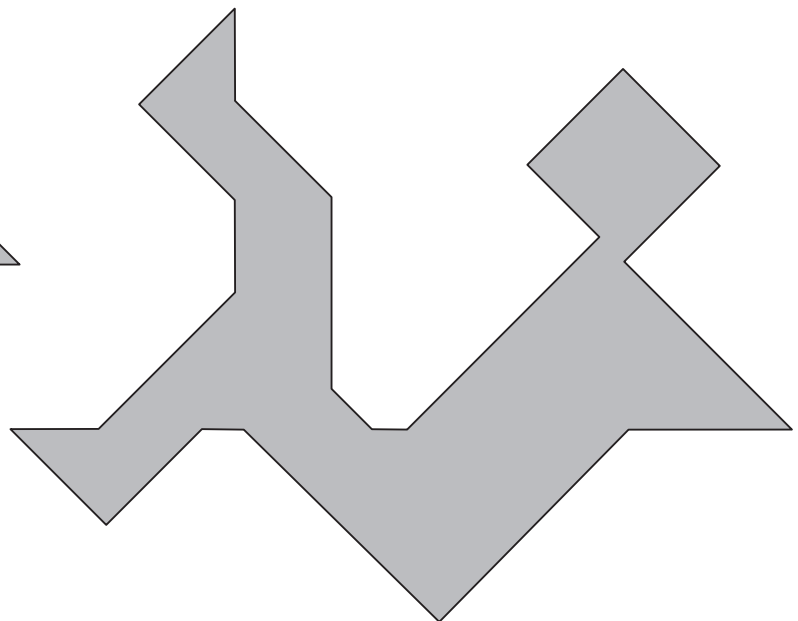
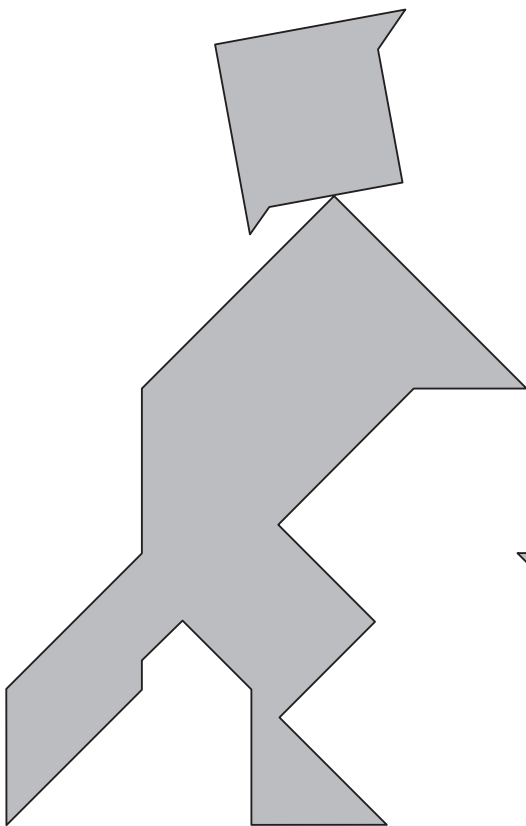
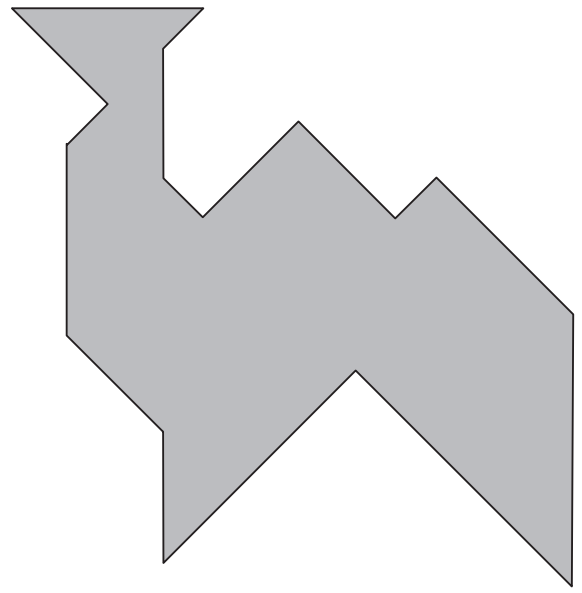
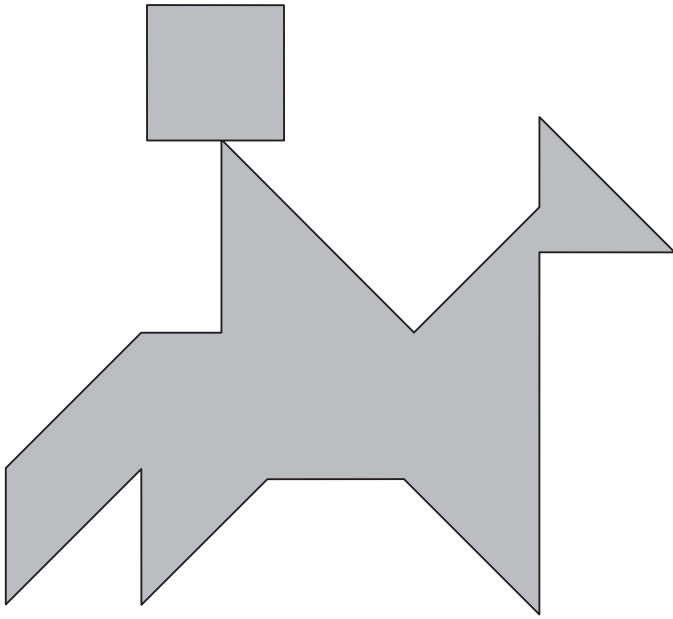
Tangrammyndir 6



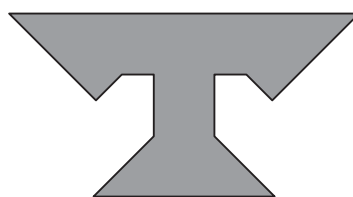
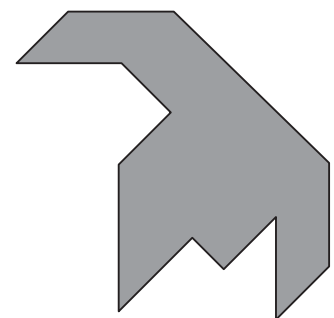
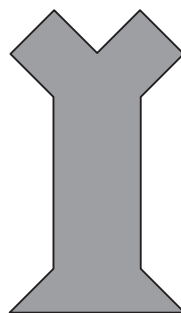
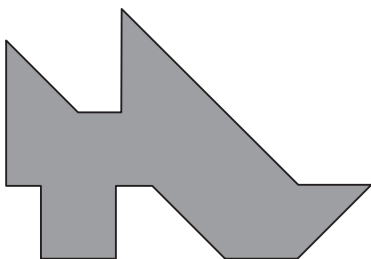
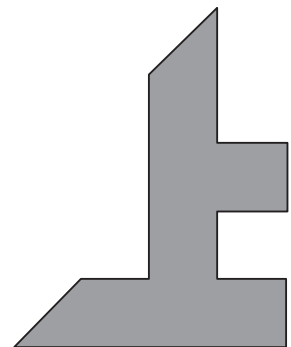
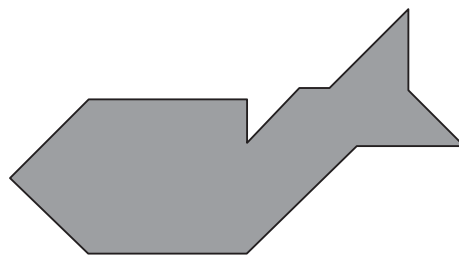
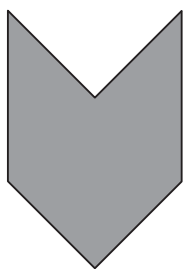
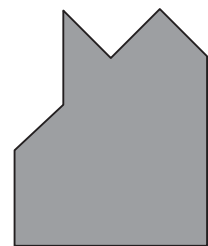
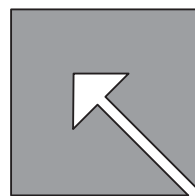
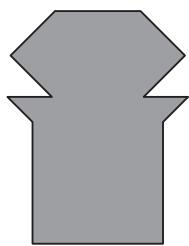
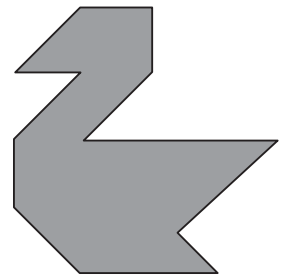
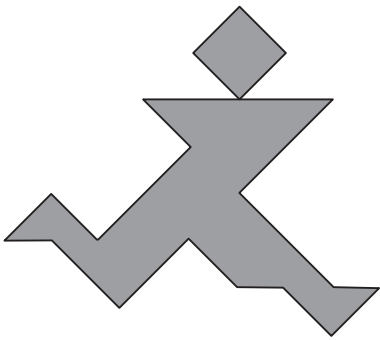
Tangrammyndir 7



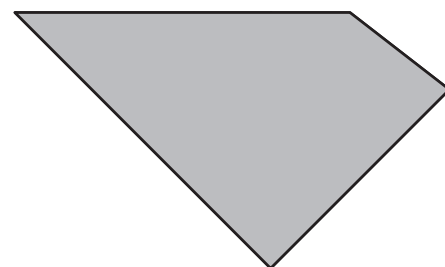
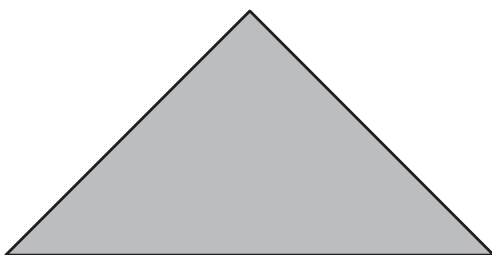
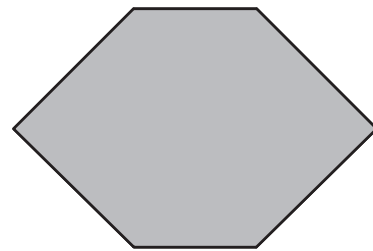
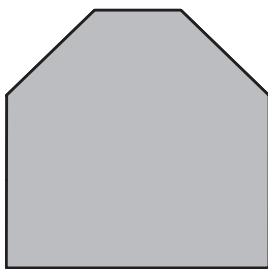
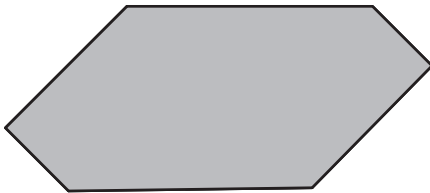
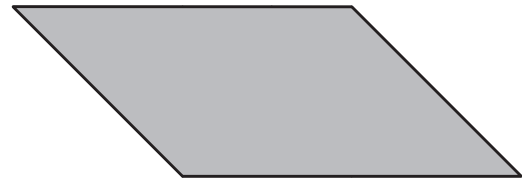
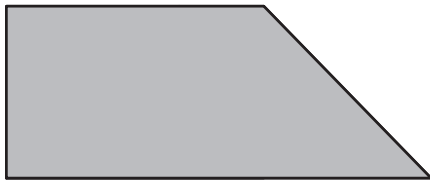
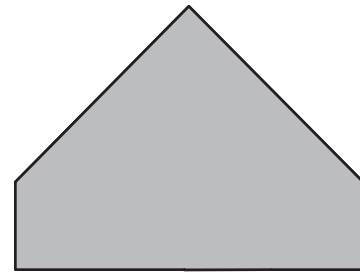
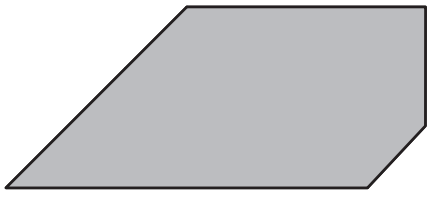
Tangrammyndir 8



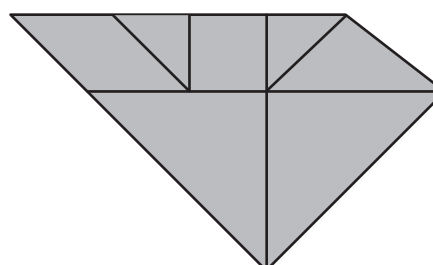
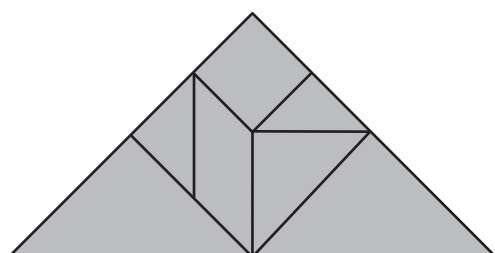
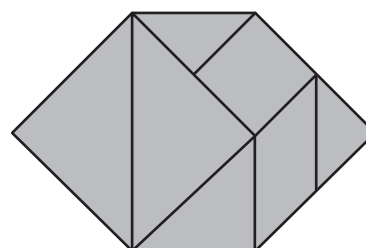
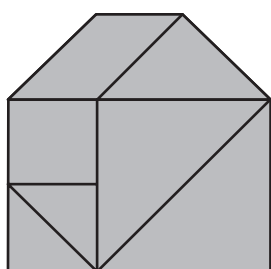
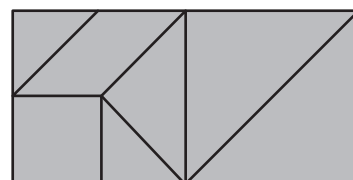
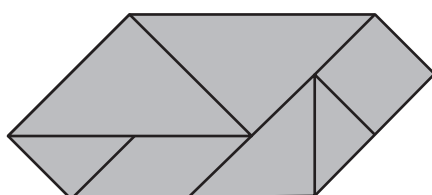
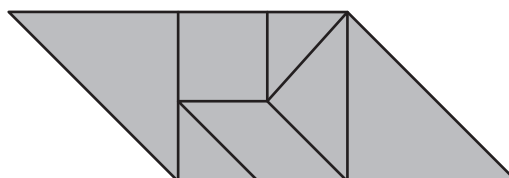
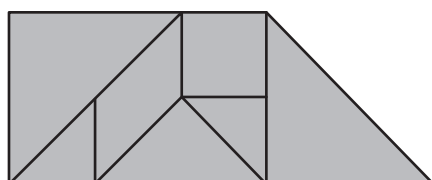
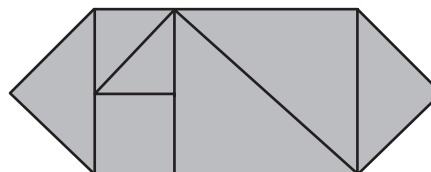
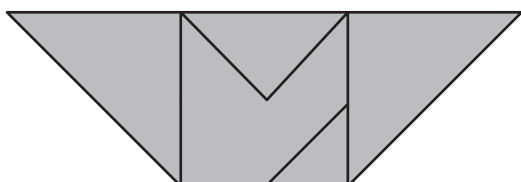
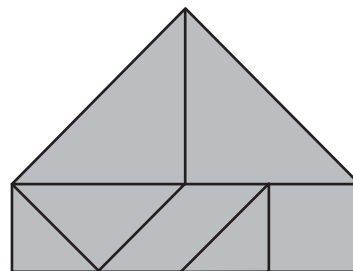
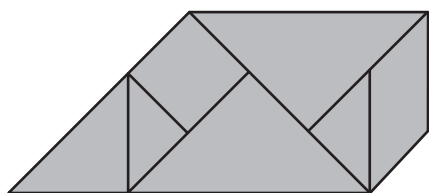
Tangrammyndir 9

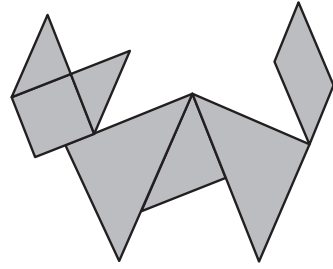


Marghyrningar með tangram I



Marghyrningar með tangram 2





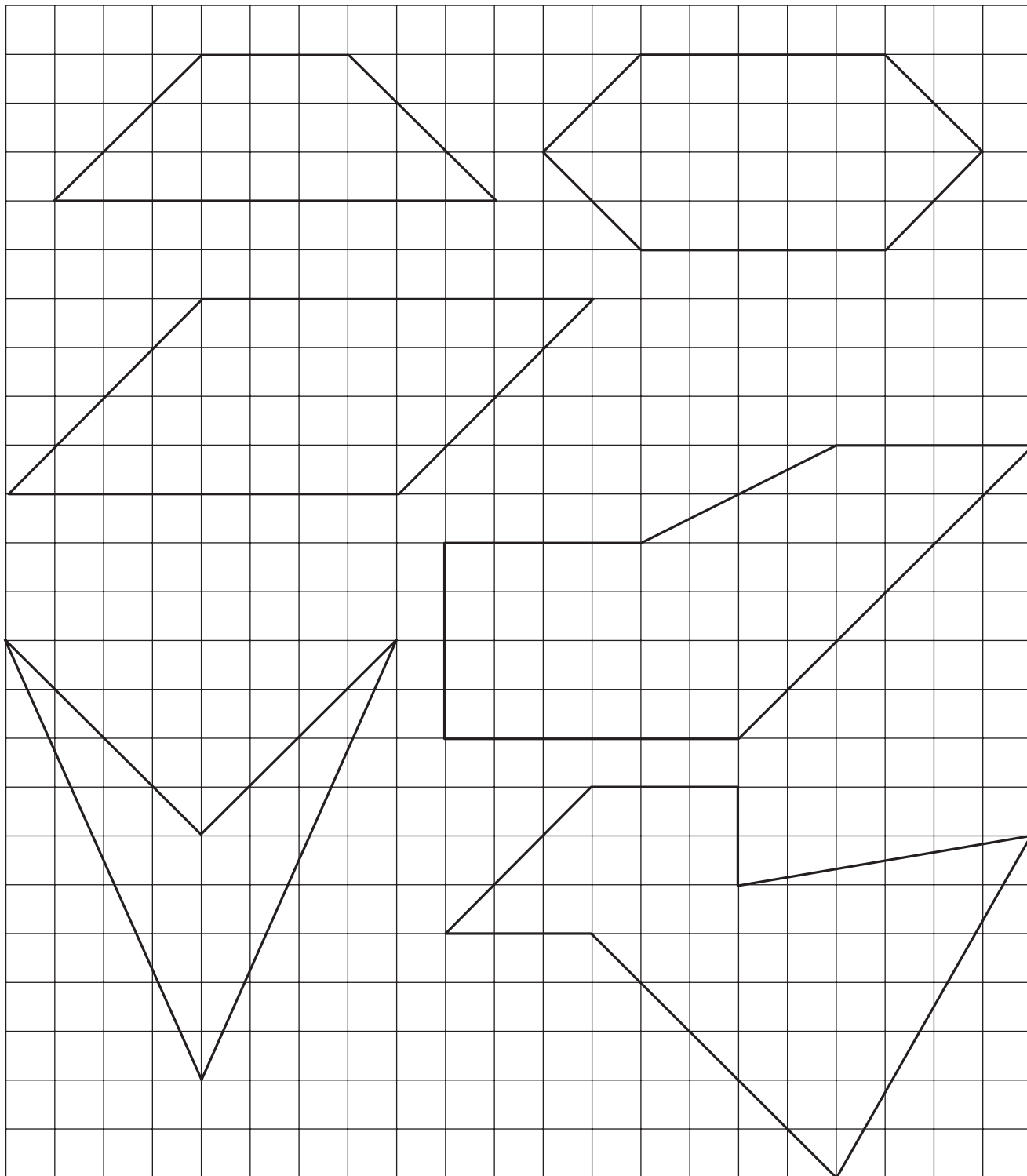
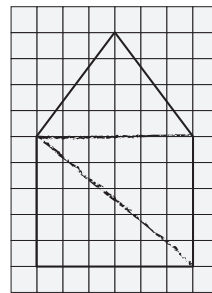
Tafla yfir marghyrninga

Búðu til marghyrninga með tangram

Marg- hyrningar: Fjöldi kubba:	1	2	3	4	5	6	7
Þríhyrningur							
Ferningur							
Rétthyrningur							
Samsíðungur							
Trapisa							
Fimmhyrningur							
Sexhyrningur							

Skipta myndum í þríhyrninga I

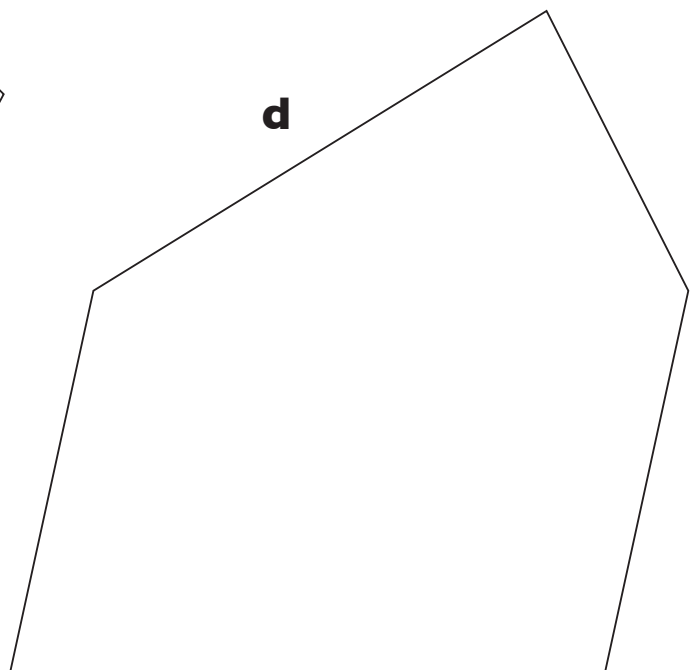
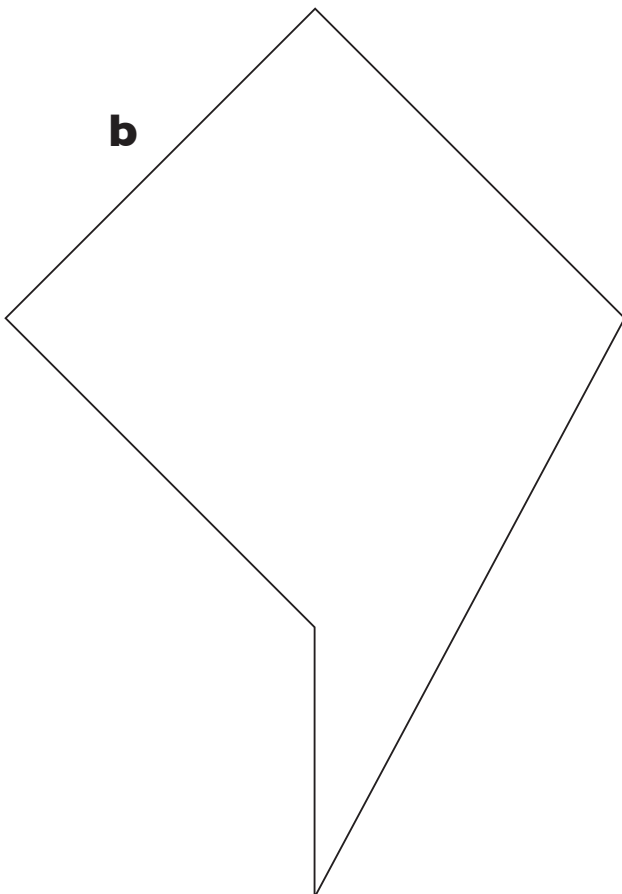
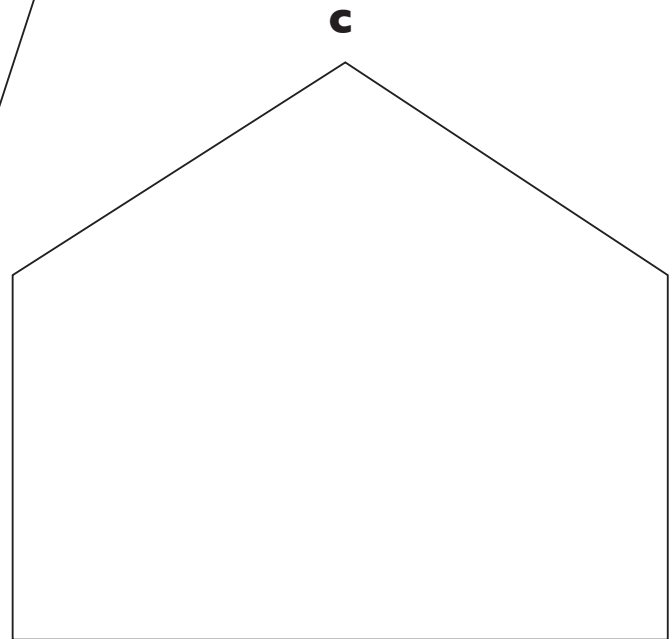
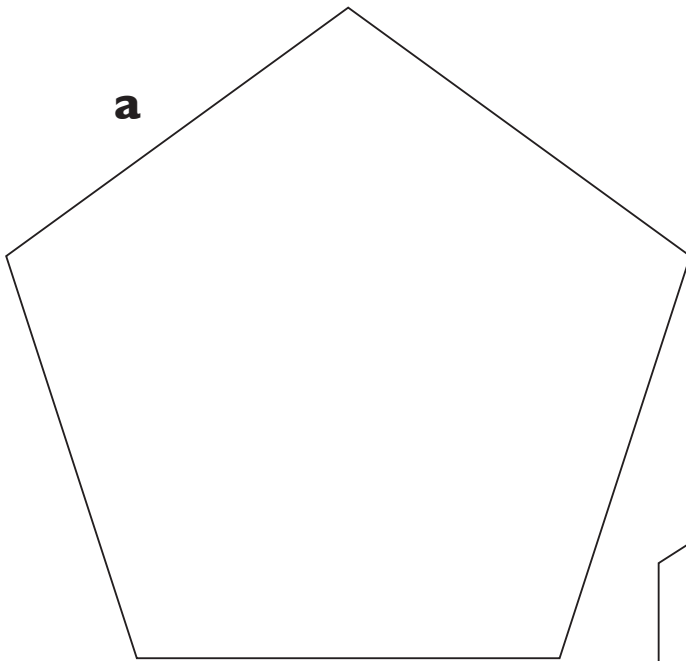
Skiptu myndunum í þríhyrninga með því að draga hornalínur. Búðu til eins fáa þríhyrninga og hægt er.



Búðu til fleiri svipuð verkefni.

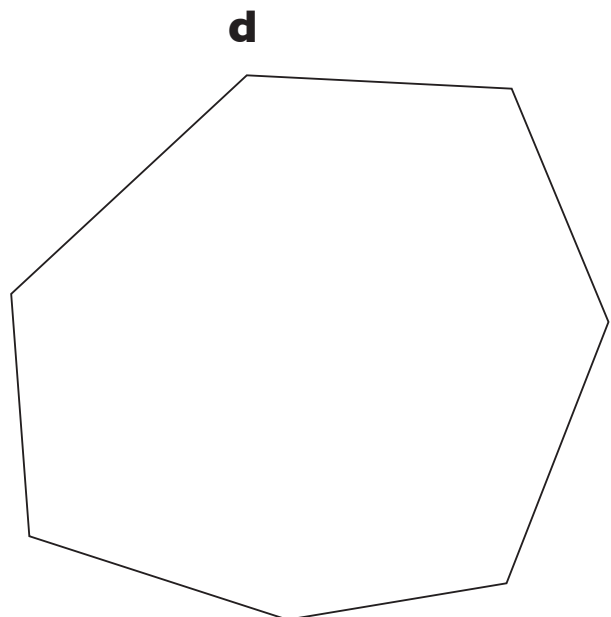
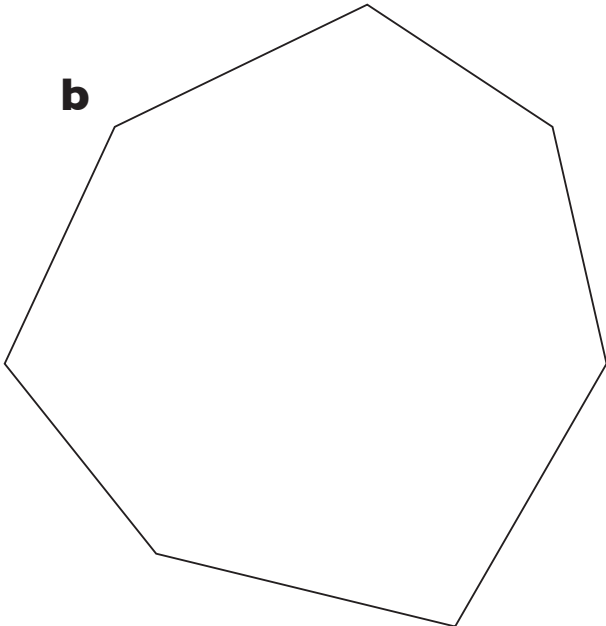
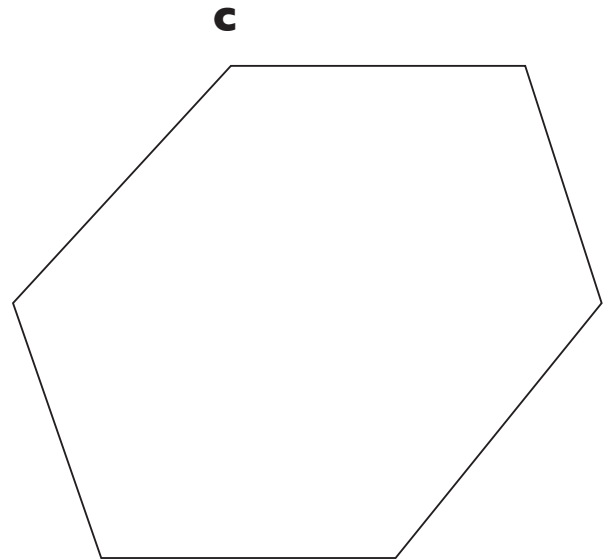
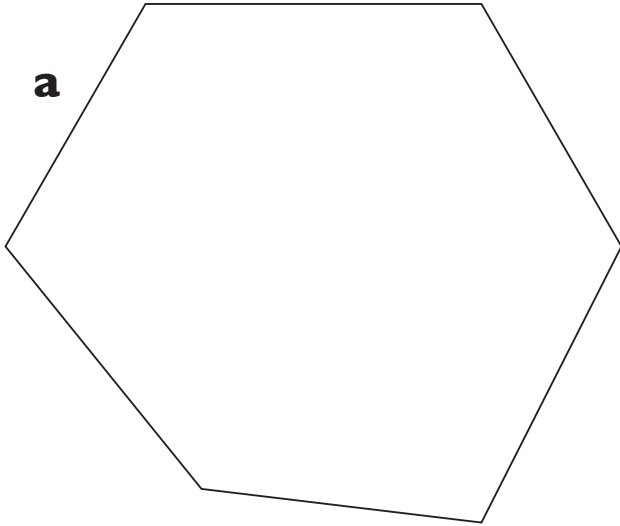
Skipta myndum í þríhyrninga 2

Skiptu fimmhyrningunum í eins fáa þríhyrninga og hægt er.



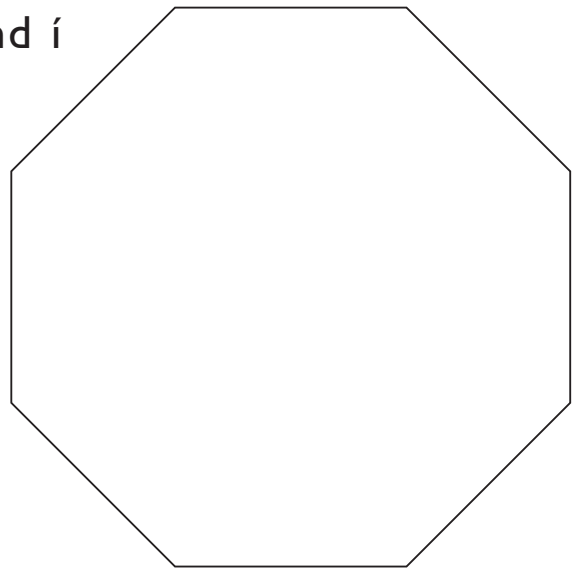
Skipta myndum í þríhyrninga 3

Skiptu myndunum í eins fáa þríhyrninga og hægt er.

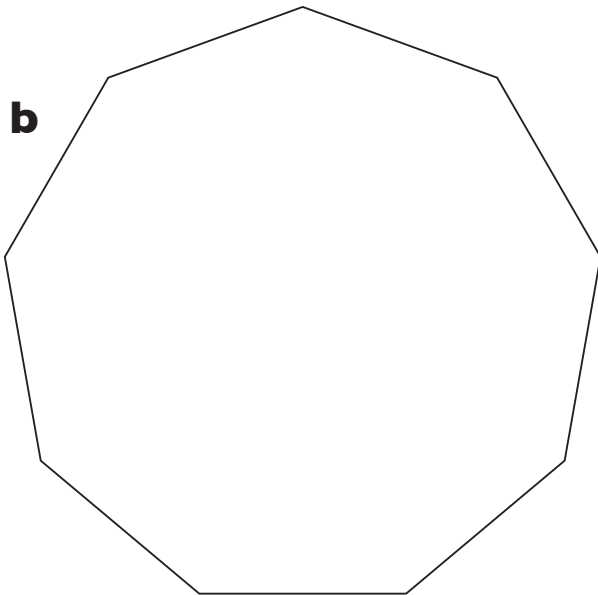


Skipta myndum í þríhyrninga 4

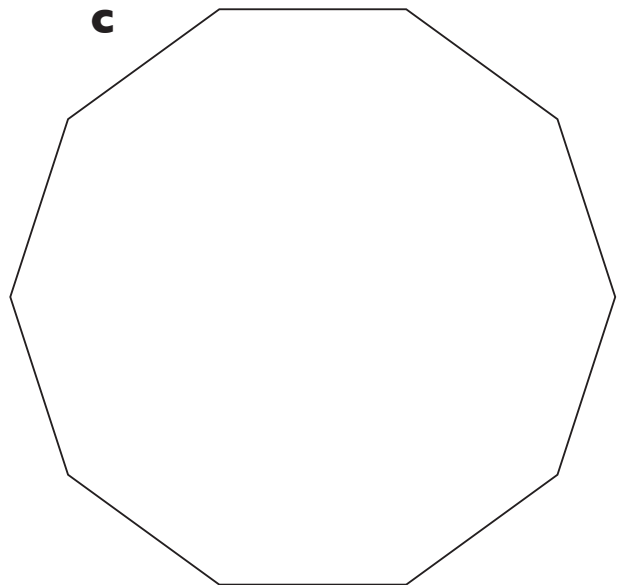
Skiptu myndunum í þríhyrninga með því að draga strik milli hornanna í hverri mynd. Skiptu hverri mynd í eins fáa þríhyrninga og hægt er.

a

Fjöldi þríhyrninga _____

b

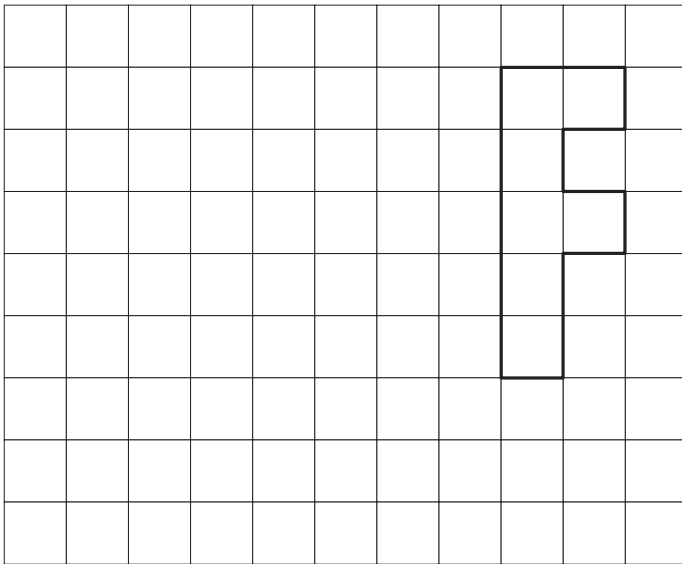
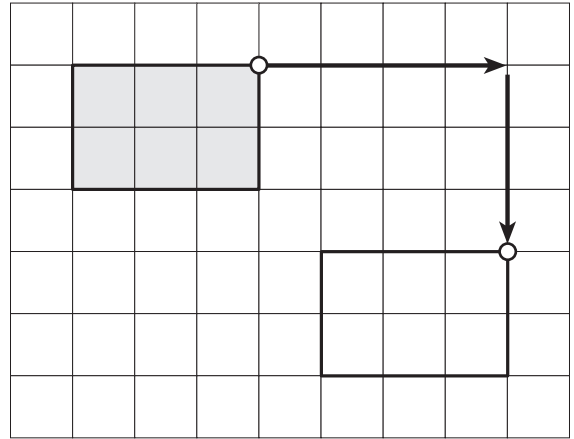
Fjöldi þríhyrninga _____

c

Fjöldi þríhyrninga _____

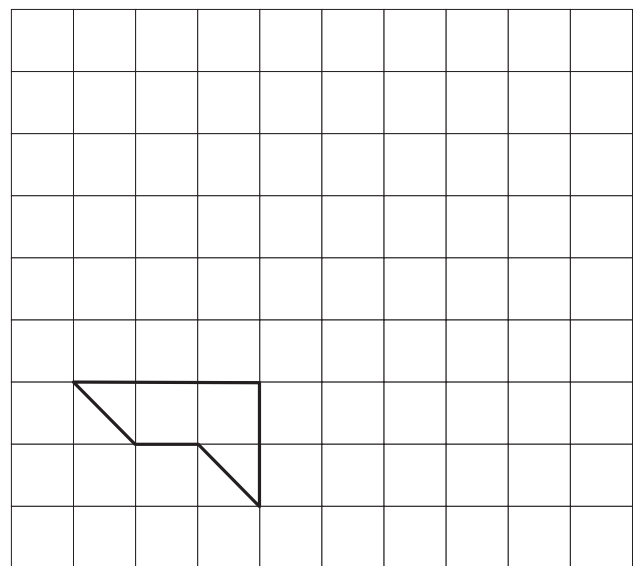
Hliðrun I

Myndinni hefur verið hliðrað um fjóra reiti til hægri og þrjá reiti niður.



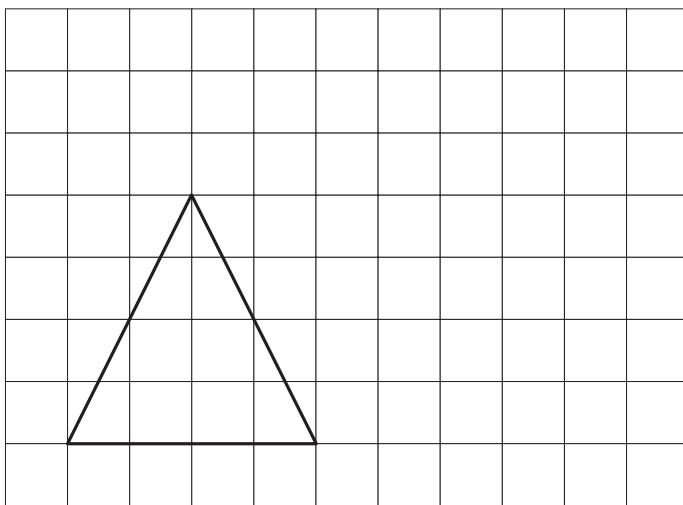
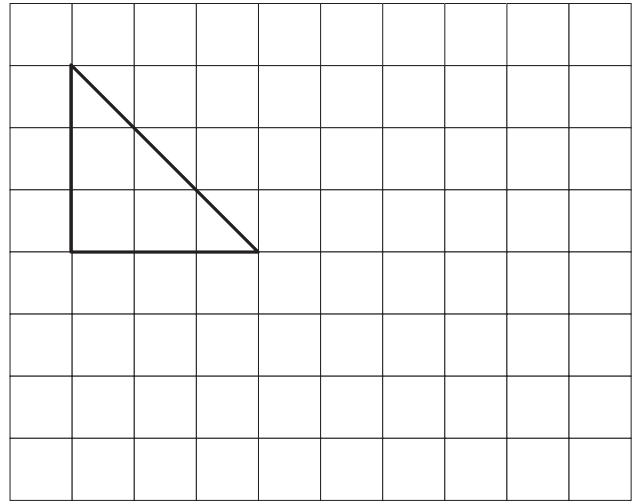
Hliðraðu myndinni um fimm reiti til vinstri og einn reit niður.

Hliðrarðu myndinni um þrjá reiti til hægri og þrjá reiti upp.



Hliðrun 2

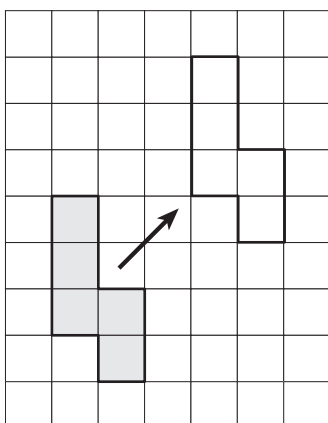
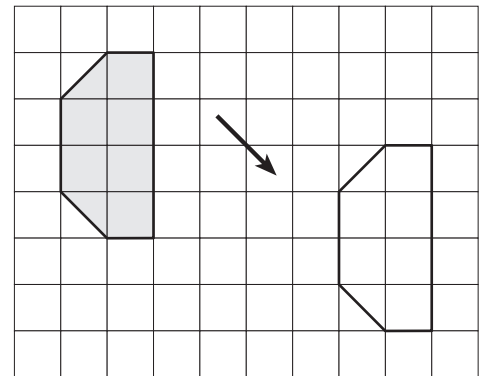
Hliðraðu myndinni um tvo reiti niður og fimm reiti til hægri.



Hliðraðu myndinni um fjóra reiti til hægri og tvo reiti upp.

Hvernig hefur myndinni verið hliðrað?

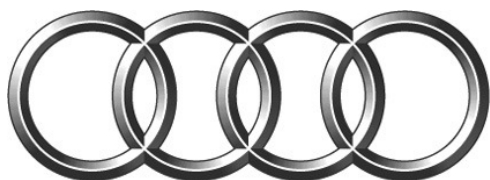
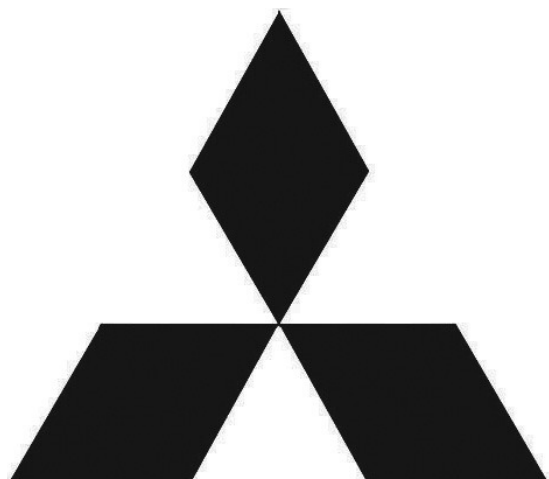
Um _____ reiti _____ og
_____ reiti _____



Hvernig hefur myndinni verið hliðrað?

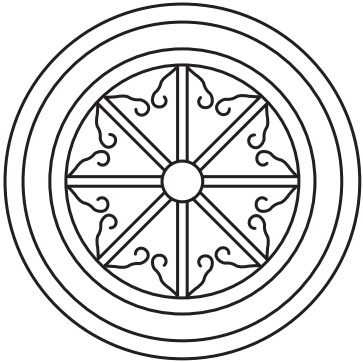
Um _____ reiti _____ og
_____ reiti _____

Bílmerki



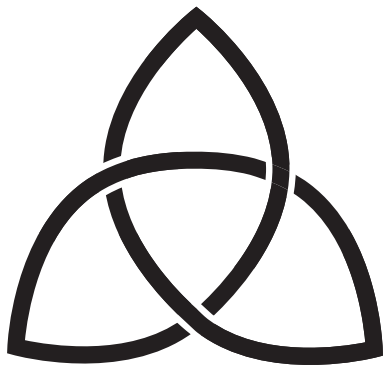
Trúartákn I

Teiknaðu spegilása.



DHARMAHJÓLIÐ er tákn úr búddasið en uppruni þess er úr hindúasið.

TRISULA er þríforkur, vopn hindúaguðsins Shiva. Tindarnir þrír tákna kraftana: vilja, verknað og visku.



TRIQUETTRAN táknar í lútersku kirkjunni hina heilögu þrenningu, guð, guðs son og heilagan anda.

HEKSAGRAM er sexarma stjarna, Davíðsstjarnan, mynduð úr tveimur þríhyrningum sem liggja hvor ofan á öðrum. Þetta tákn er notað í margs konar trúarbrögðum og menningarsamfélögum.



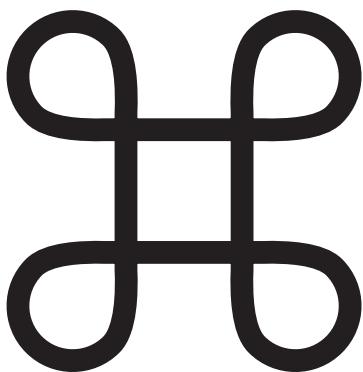
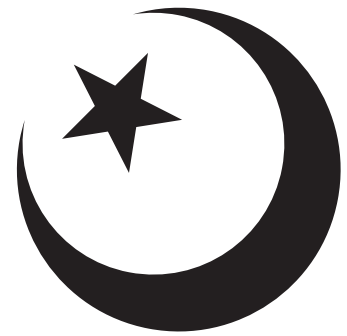
Trúartákn 2

Teiknaðu spegilása.



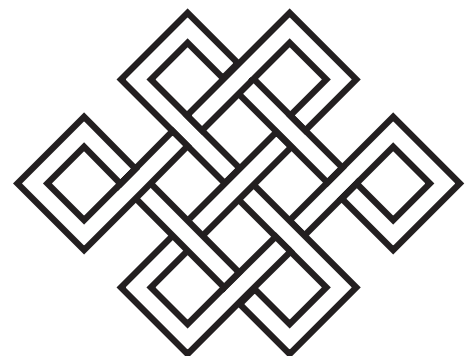
KHANDA er tákn úr trúarbrögðum sikha. Það táknar hinar fjórar stoðir í trú þeirra.

Þetta tákn, hálfmáni og stjarna, er oftast álitid vera tákn íslam.



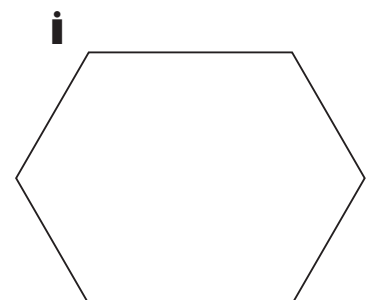
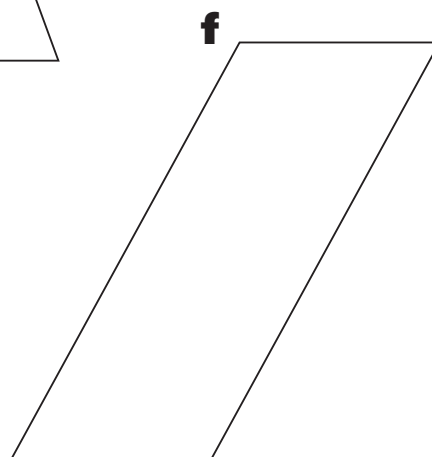
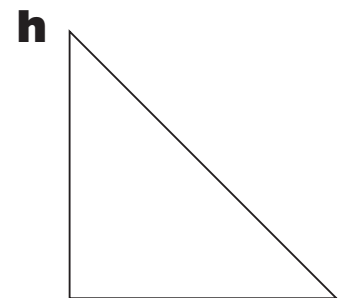
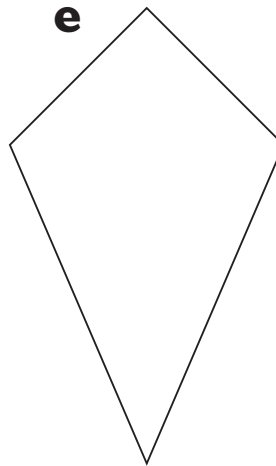
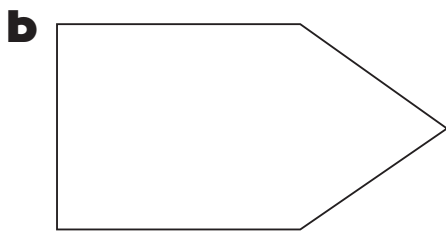
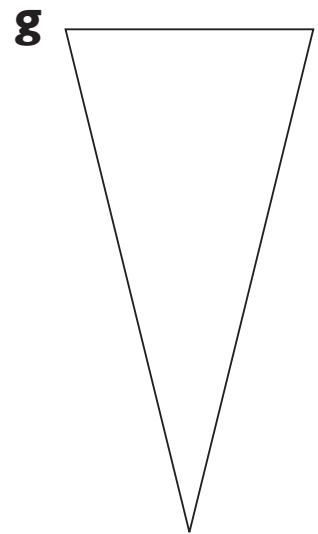
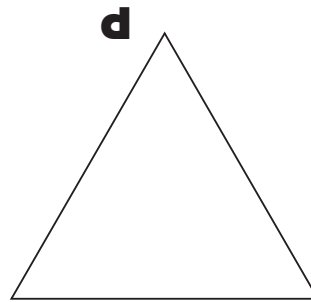
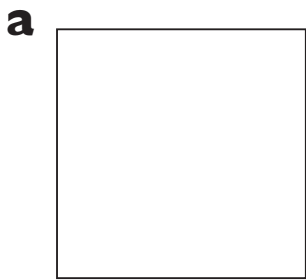
Þetta tákn er mjög gamalt og segja má að það finnist um allan heim. Það hefur verið notað í mörg þúsund ár í margs konar menningarsamfélögum, til verndar og gæslu.

Þetta tákn er eitt af átta í búddatrú sem tákna hina áttföldu leið frá þjáningunni til eilífrar sælu (nirvana).



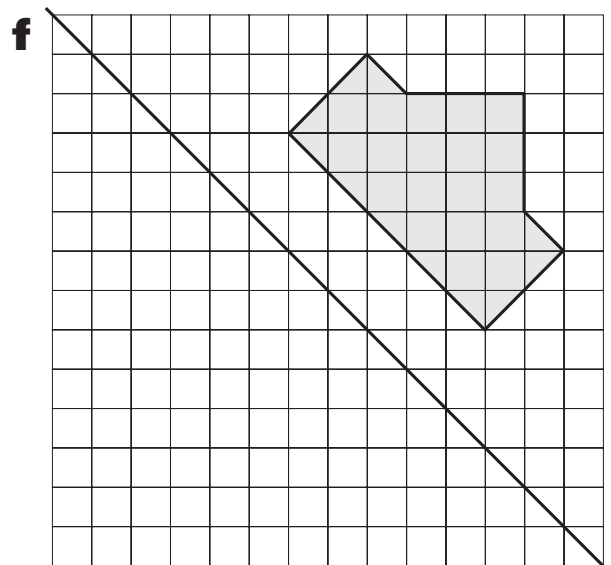
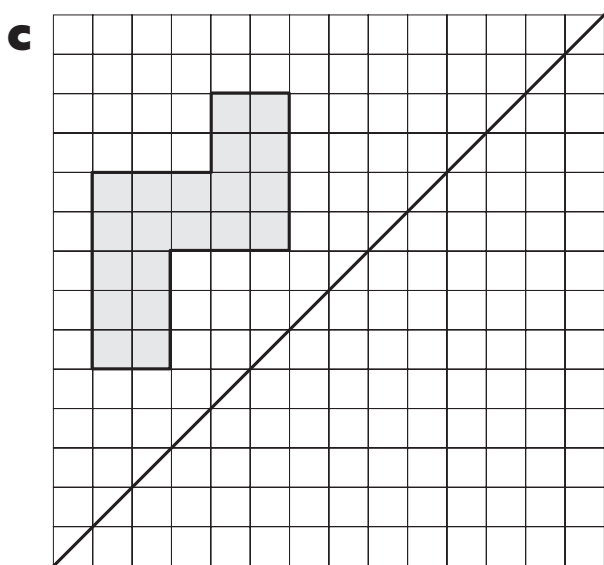
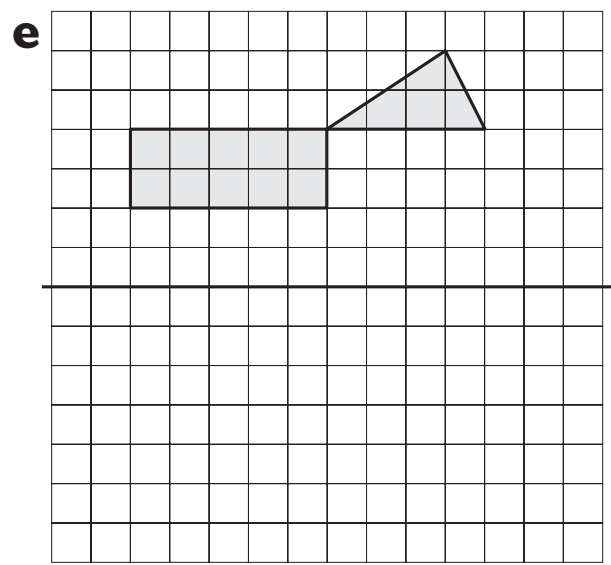
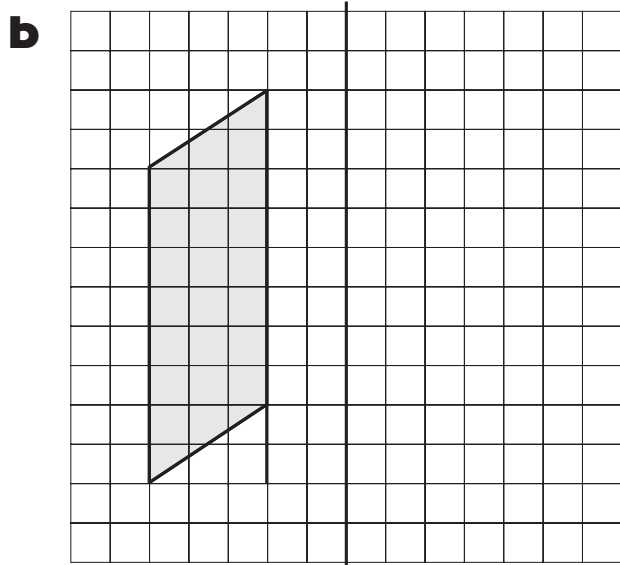
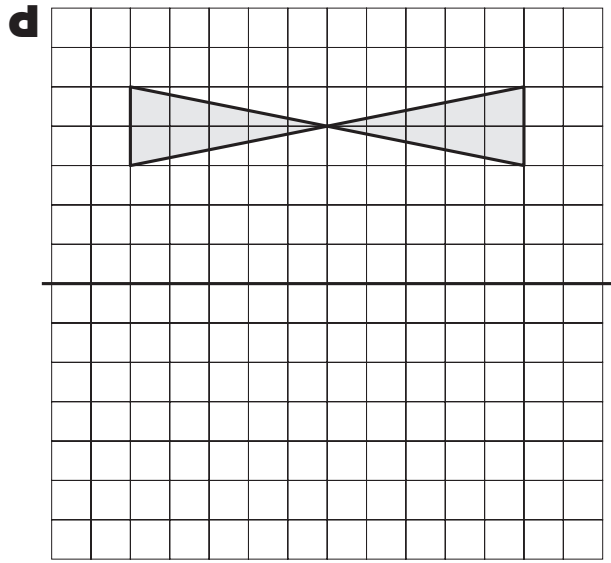
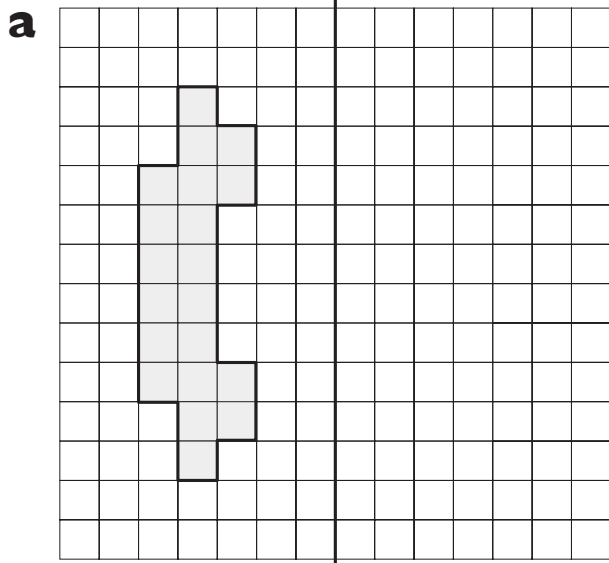
Samhverfa í rúmfræðiformum

Finndu og teiknaðu spegilása í myndirnar.



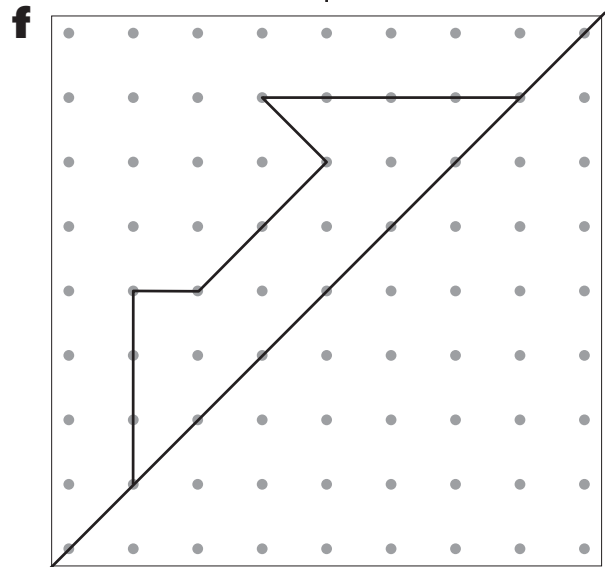
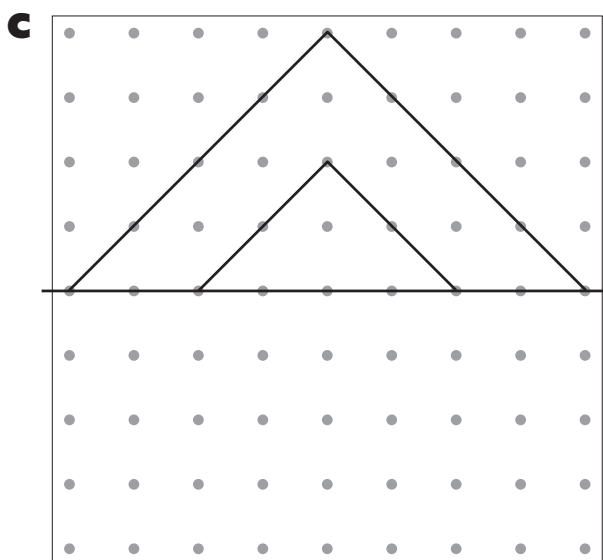
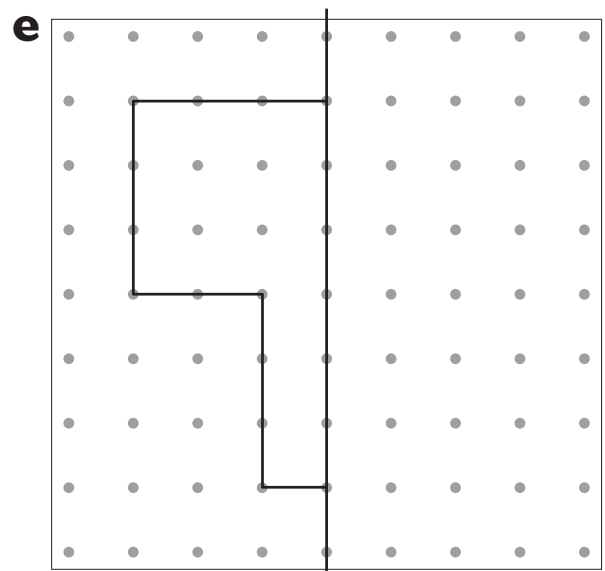
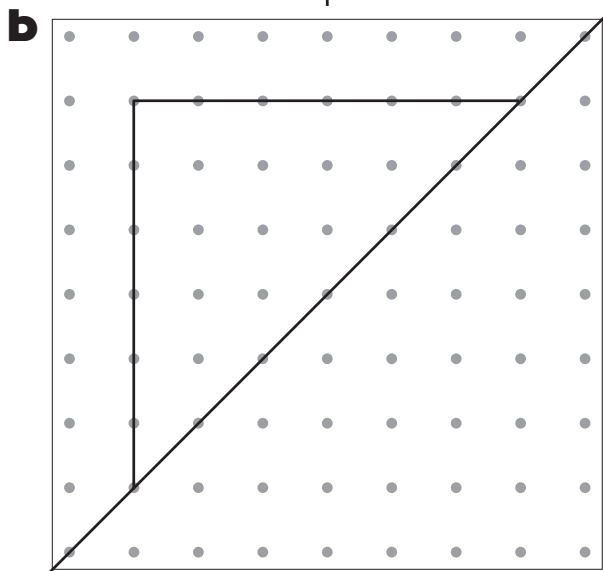
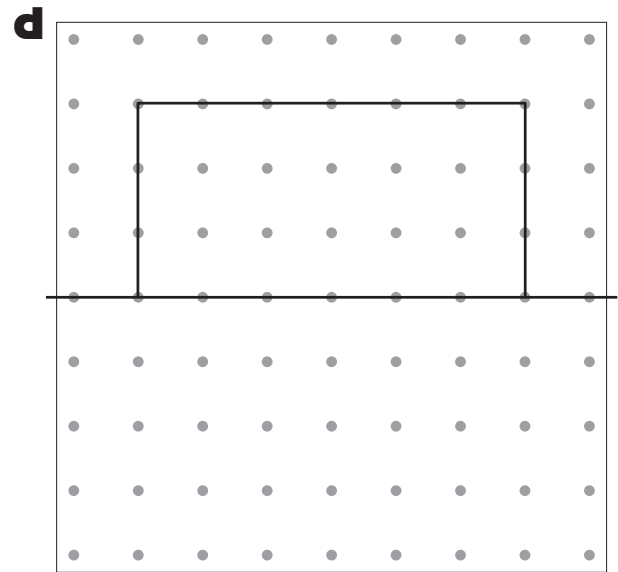
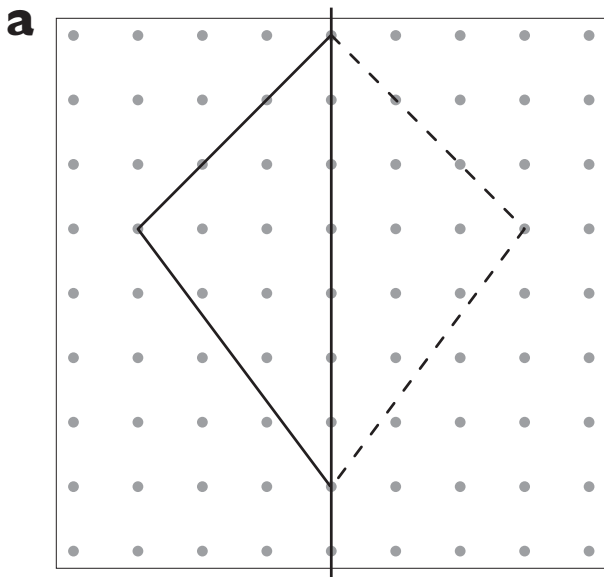
Spegilmyndir í rúðuneti

Ljúktu við að teikna myndirnar þannig að þær verði samhverfar um spegilásana.



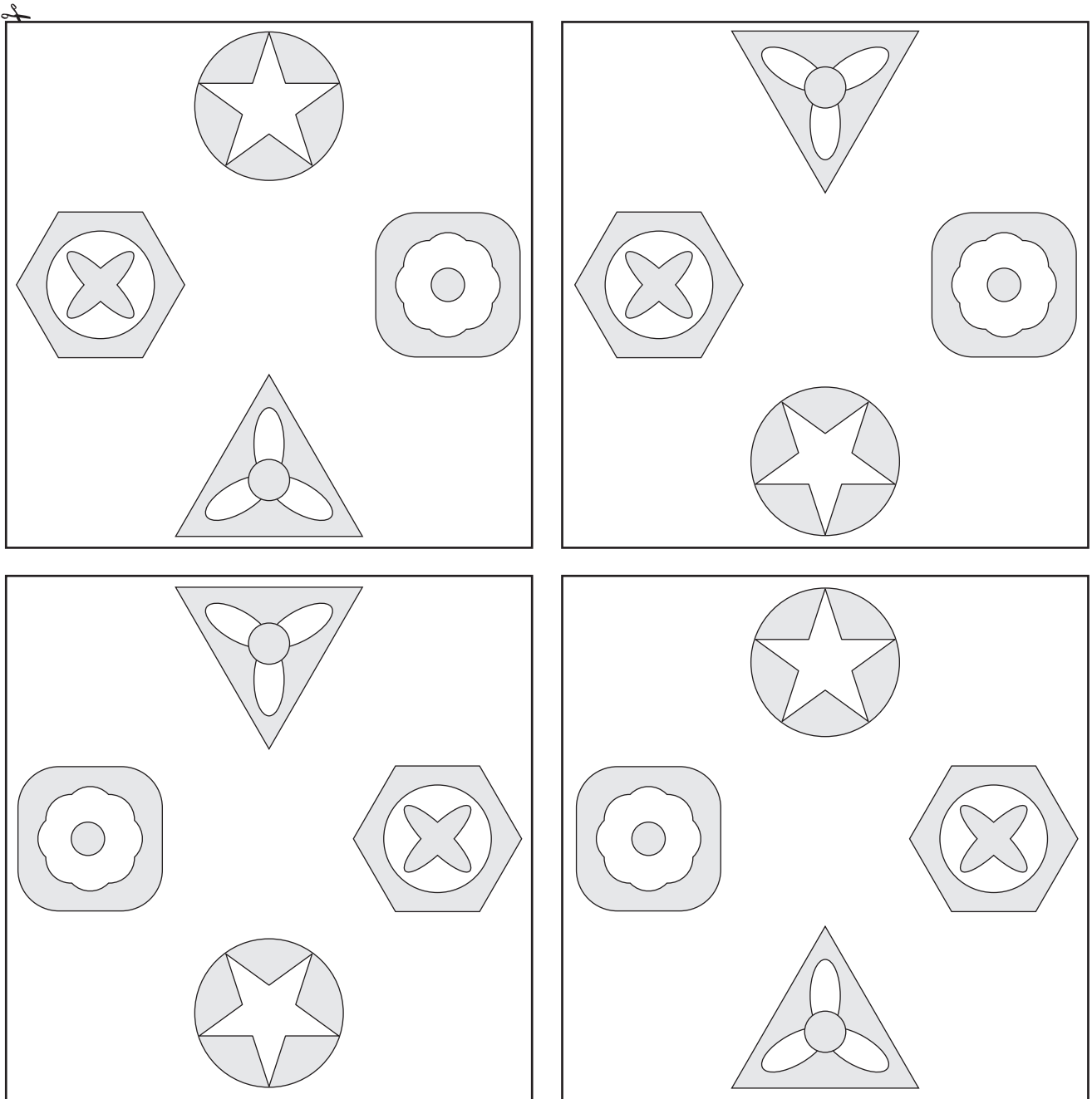
Spegilmyndir á punktablaði

Ljúktu við að teikna myndirnar þannig að þær verði samhverfar um spegilásana.



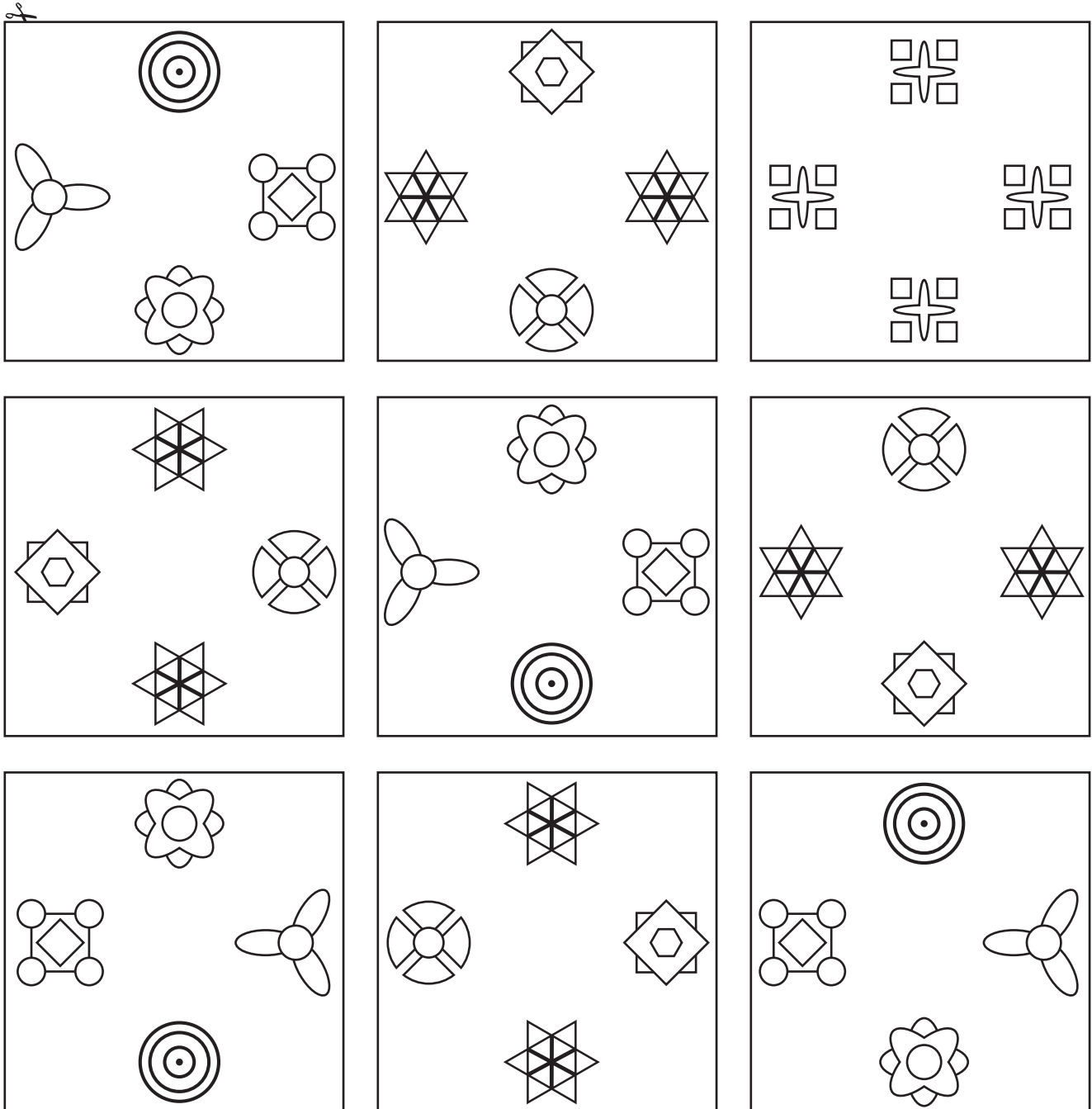
Samhverfa I

Klipptu ferningana fjóra út. Raðaðu þeim síðan saman þannig að þeir myndi samhverft mynstur með tveimur spegilásum. Reyndu að finna fleiri en eina lausn.



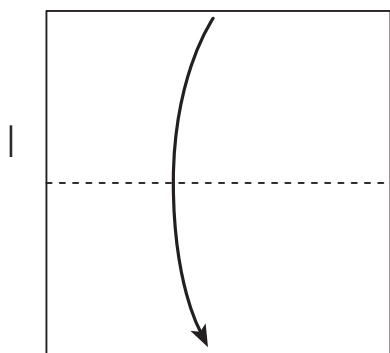
Samhverfa 2

Klipptu ferningana fjóra út. Raðaðu þeim síðan saman þannig að þeir myndi samhverft mynstur með tveimur spegilásum.

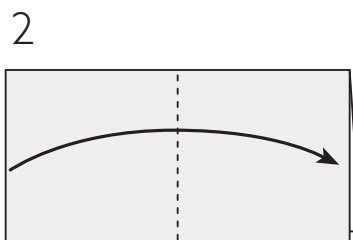


Pappírsbrot I

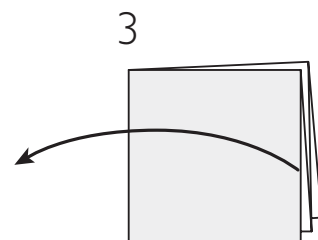
Hús



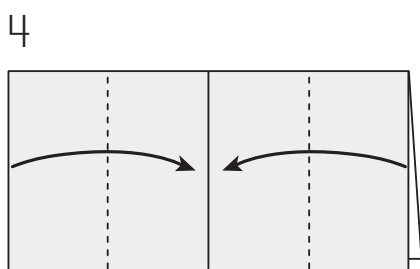
Brjóttu blaðið til helminga.



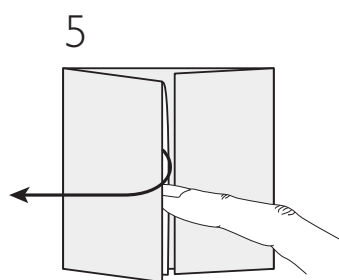
Brjóttu aftur til helminga.



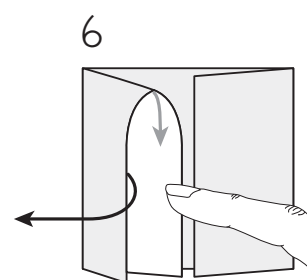
Opnaðu blaðið á



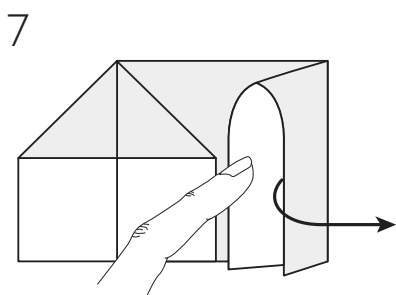
Brjóttu inn að miðju.



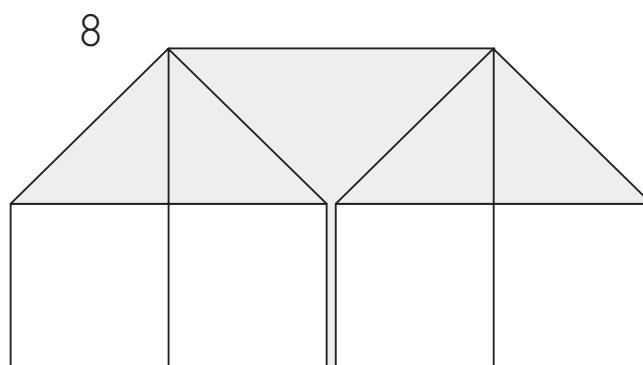
Settu fingurinn inn í brotið til að opna.



Haltu áfram að opna líkanið.



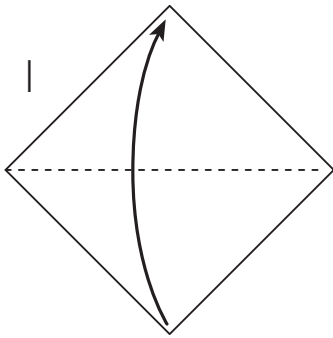
Opnaðu líka hægra megin.



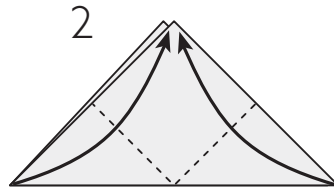
Hús.

Pappírsbrot 2

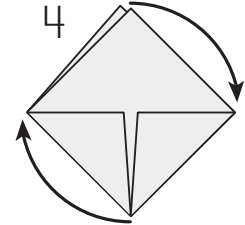
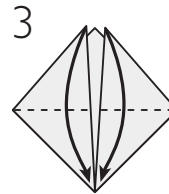
Hattur



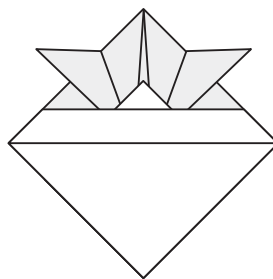
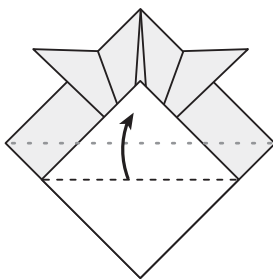
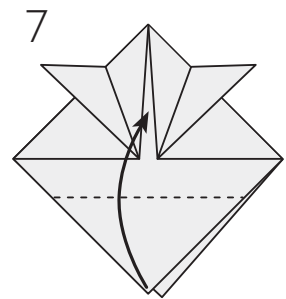
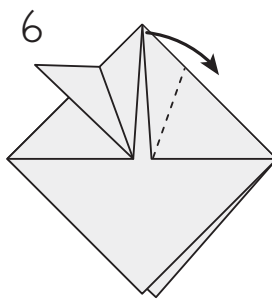
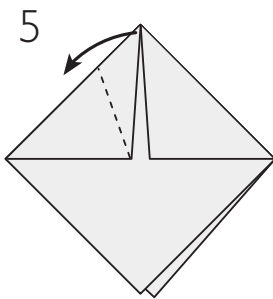
Brjóttu blaðið til helminga.



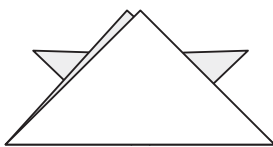
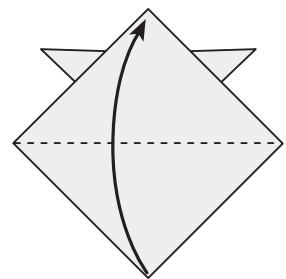
Brjóttu hornin upp.



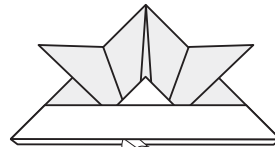
Snúðu blaðinu.



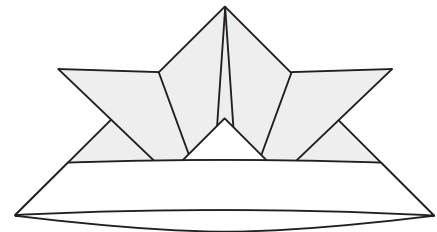
Snúðu blaðinu á hvolf.



Snúðu blaðinu aftur á hvolf.



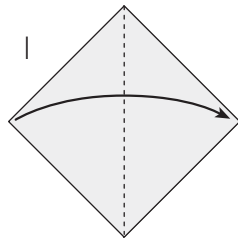
Settu fingurinn inn í blaðið til að opna hattinn.



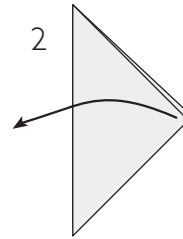
Haltu áfram að opna líkanið.
Hattur

Pappírsbrot 3

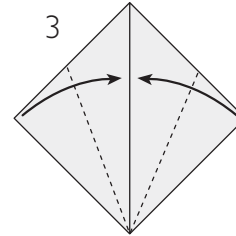
Svanur



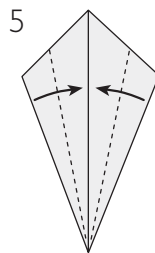
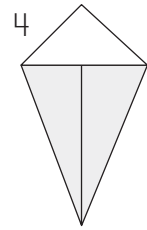
1
Brjóttu blaðið til helminga.



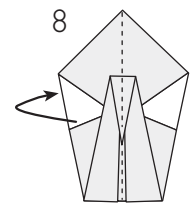
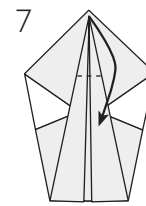
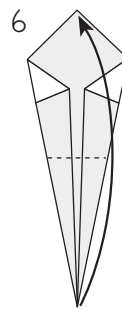
2
Opnaðu blaðið aftur.



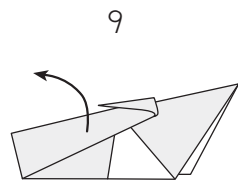
3
Brjóttu inn að miðju.



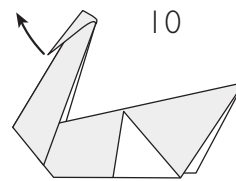
5
Brjóttu að miðju.



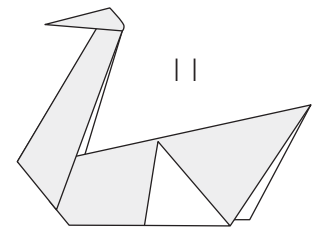
8
Brjóttu mjóa endann upp.



9
Brjóttu aftur á bak.



10
Ýttu hálsinum upp.



11
Ýttu höfðinu upp.
Svanur.

Flugdreki

Þú þarft:

- eitt A3-blað
- mjóa bambusstöng, um það bil 20 cm á lengd
- snúru, 4–8 m á lengd
- pappabút, 5–10 cm langan, til að vefja snúrunni upp á
- hala úr plasti
- liti
- límband
- gatara

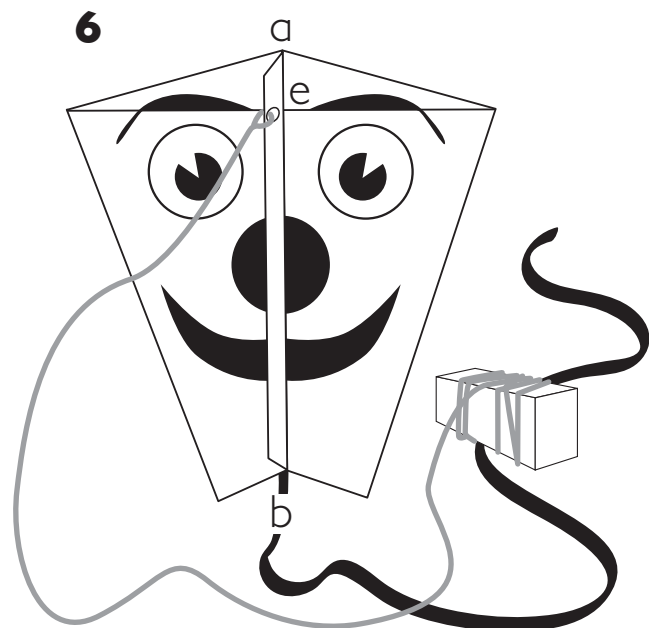
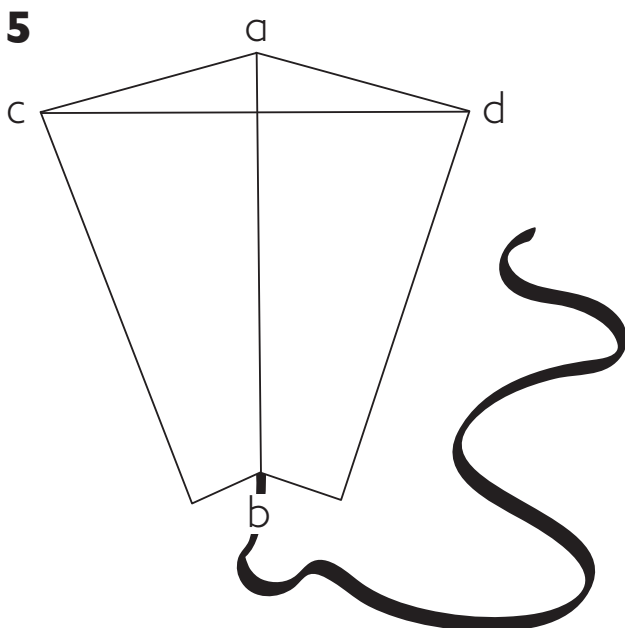
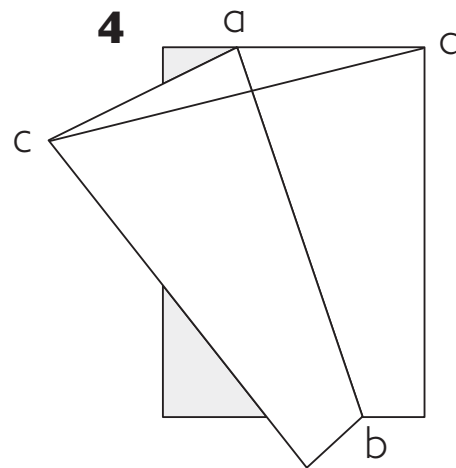
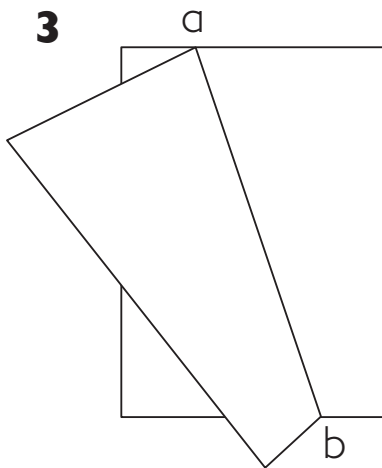
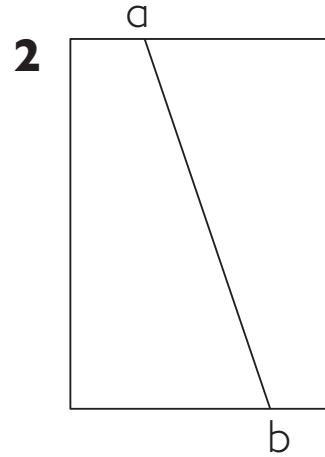
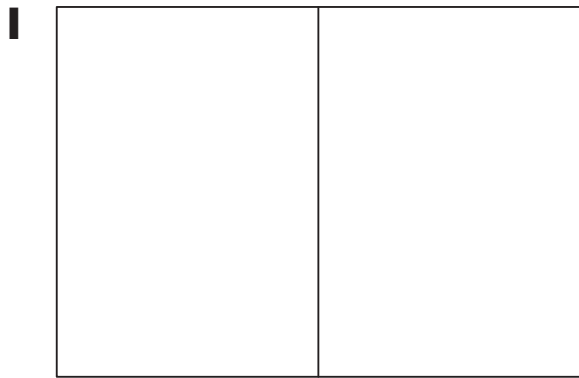
Skoðaðu teikninguna á verkefnablaði 5.121b. Þannig ferðu að:

- 1** Brjóttu A3-blað til helminga, á þverveginn.
- 2** Brjóttu á ská eftir línunni ab.
- 3** Brjóttu báða vængina út til hliðanna. Límdu vængina saman með límbandi milli a og b. Það er bakhliðin á drekanum. Skreyttu nú flugdrekann. Gerðu þér grein fyrir hvaða hlið hans mun blasa við frá jörðu.
- 4** Límdu bambusstöngina milli c og d. Hún þarf ekki að ná alveg út að vængbrúnum. Aðeins þarf að gæta þess að hún sé jafnt langt frá báðum brúnum.
- 5** Búðu til drekahala, 1–3 m á lengd, úr plasti og límdu hann fastan við bakið á drekanum við b. Leggðu drekan á bakið og beygðu kjölinn fram og aftur nokkrum sinnum þar til hann stendur beint upp.
- 6** Notaðu límband til að styrkja kjölinn við e og gerðu þar gat (með gatara).
 $\frac{1}{3}$
Nú skaltu binda annan enda snúrunnar fastan í gatið og vefja snúrunni upp á pappabútin með því að byrja á hinum endanum.

Framhald á 5.121b

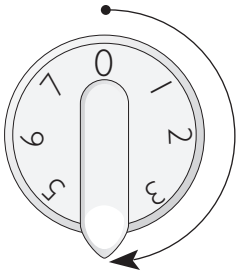
Flugdreki skref fyrir skref

(framhald af 5.121a)



Snúningur

1 Dragðu strik frá hornamálunum í réttan takka.

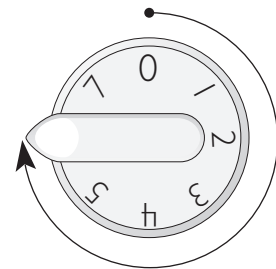
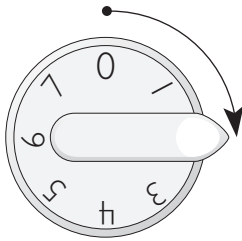
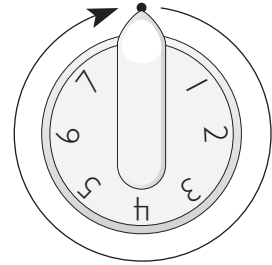


90°

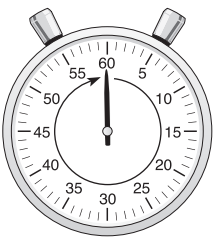
270°

180°

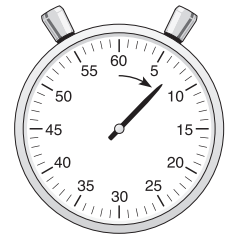
360°



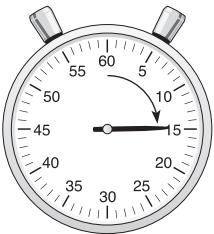
2 Dragðu strik frá hornamálunum í rétta klukku.



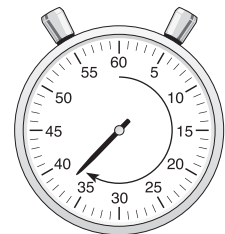
180°



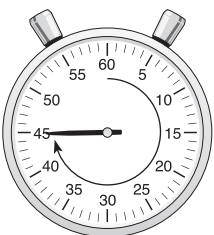
270°



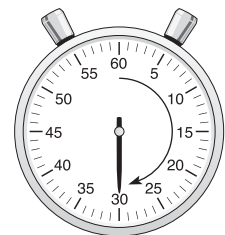
90°



45°



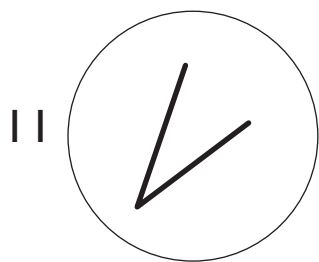
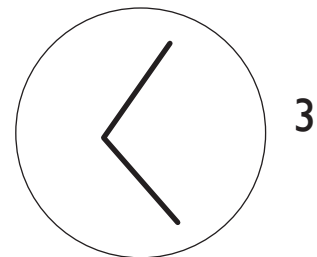
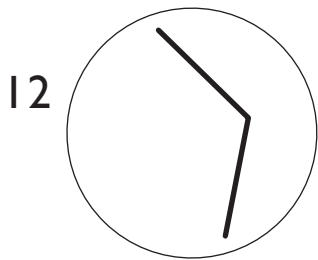
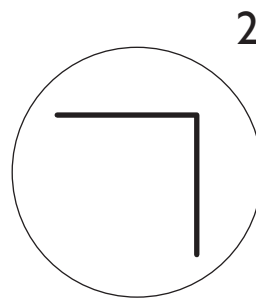
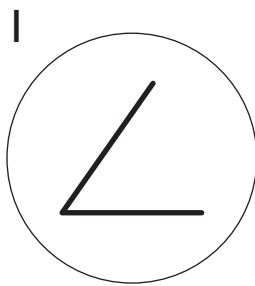
360°



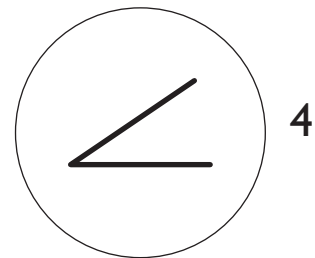
225°

Hvöss, gleið og rétt horn I

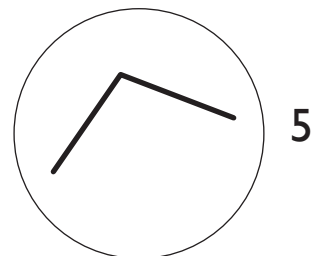
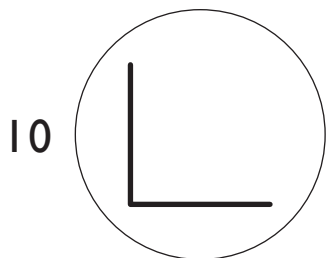
Dragðu strik frá hornunum í rétt heiti.



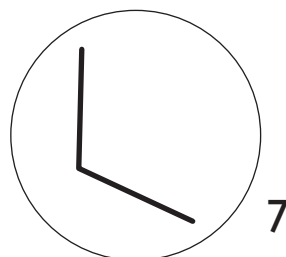
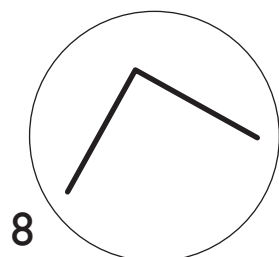
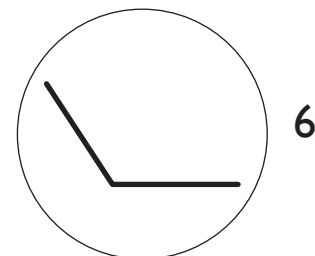
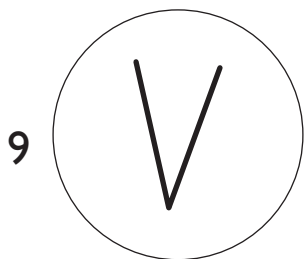
Gleitt
horn



Rétt
horn



Hvasst
horn



Hvöss, gleið og rétt horn 2

1 Litaðu hornin.

Rétt horn



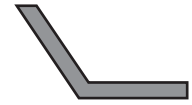
rauð

Hvöss horn

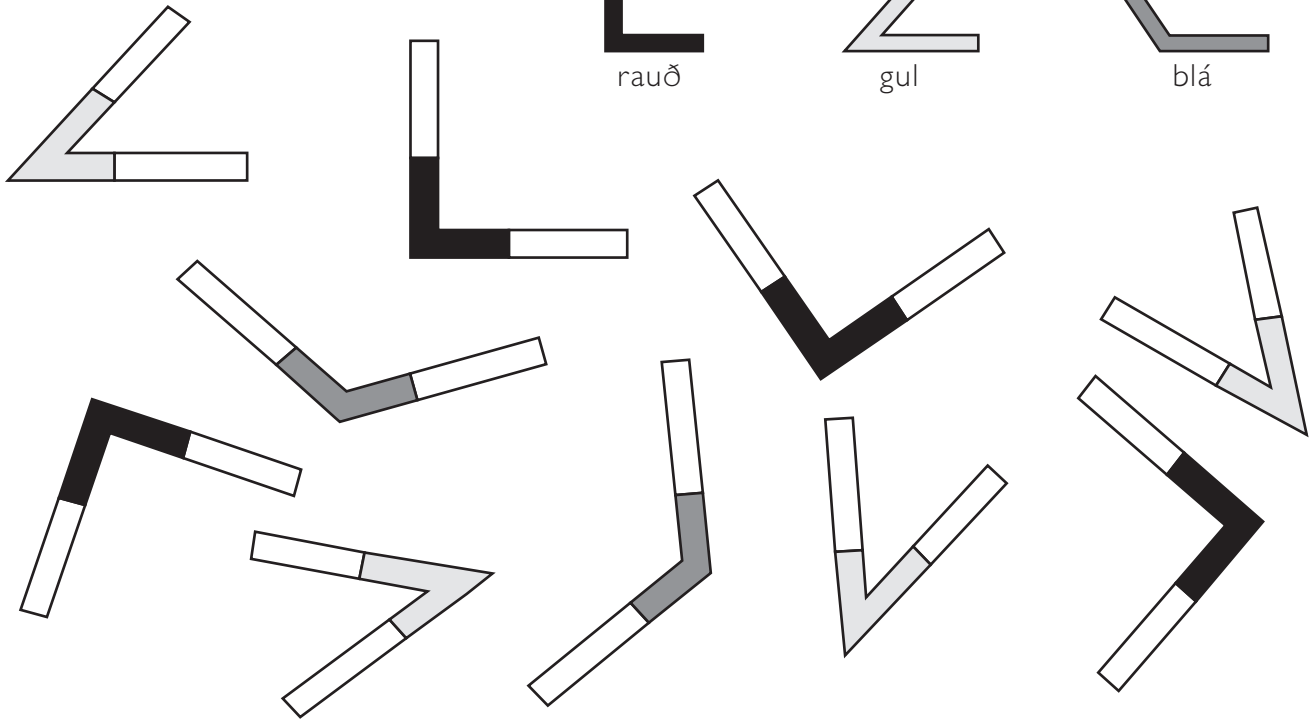


gul

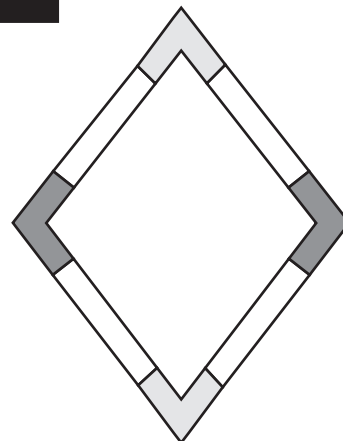
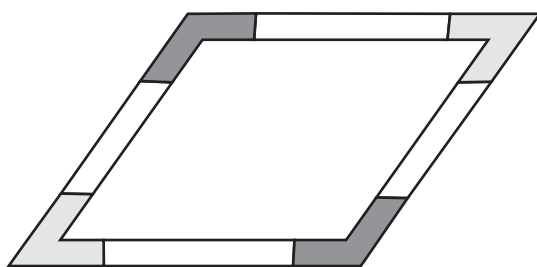
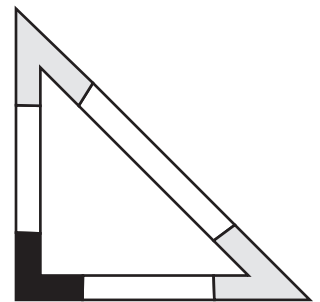
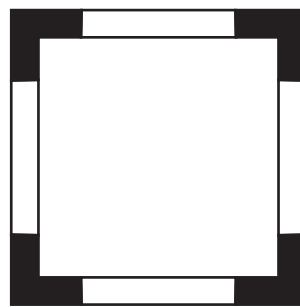
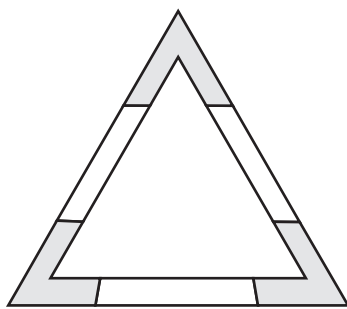
Gleið horn



blá



2 Litaðu hornin á myndunum eftir fyrirmælunum efst á blaði síðunni.

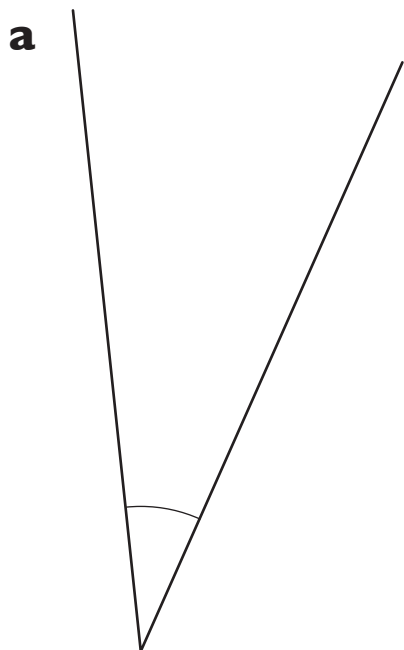


Hvöss, gleið og rétt horn 3

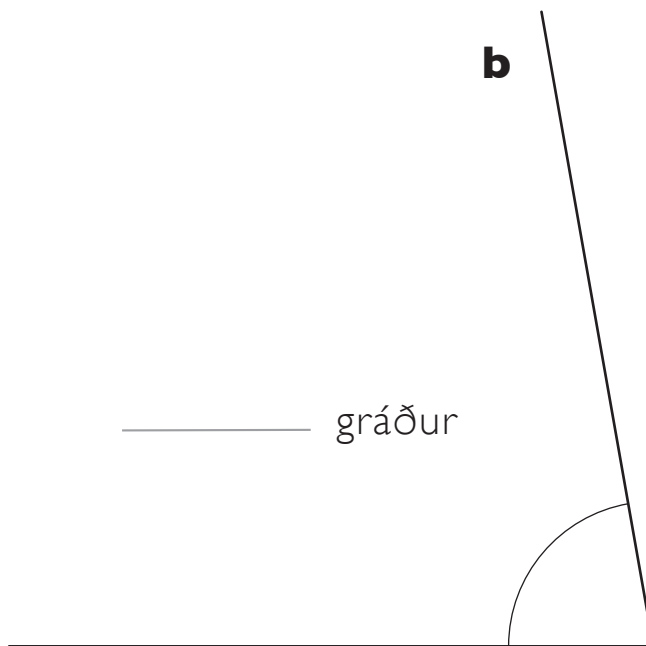
Ljúktu við að teikna hornin sem gefin eru upp. Það vantar annan arm hornanna. Veldu einn punkt af þremur í hverju verkefni til að láta arminn fara í gegnum.

<p>a</p> <p>Rétt horn</p>	<p>e</p> <p>Hvasst horn</p>
<p>b</p> <p>Gleitt horn</p>	<p>f</p> <p>Rétt horn</p>
<p>c</p> <p>Gleitt horn</p>	<p>g</p> <p>Hvasst horn</p>
<p>d</p> <p>Hvasst horn</p>	<p>h</p> <p>Rétt horn</p>

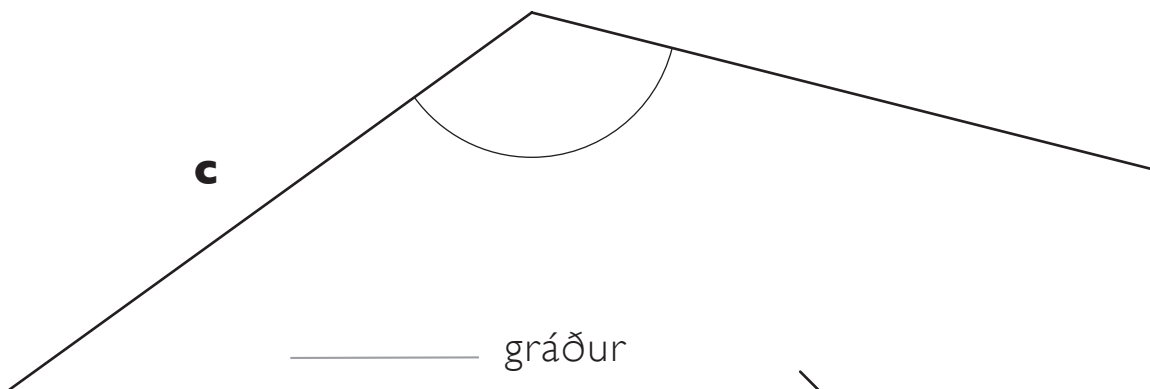
Hornamælingar með gráðuboga I



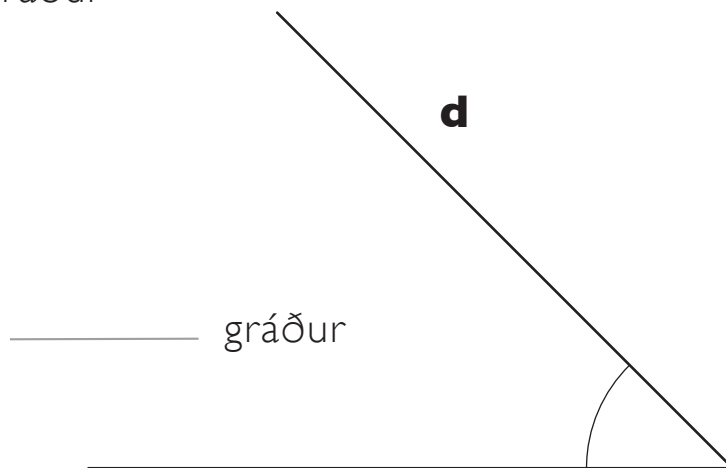
_____ gráður



_____ gráður

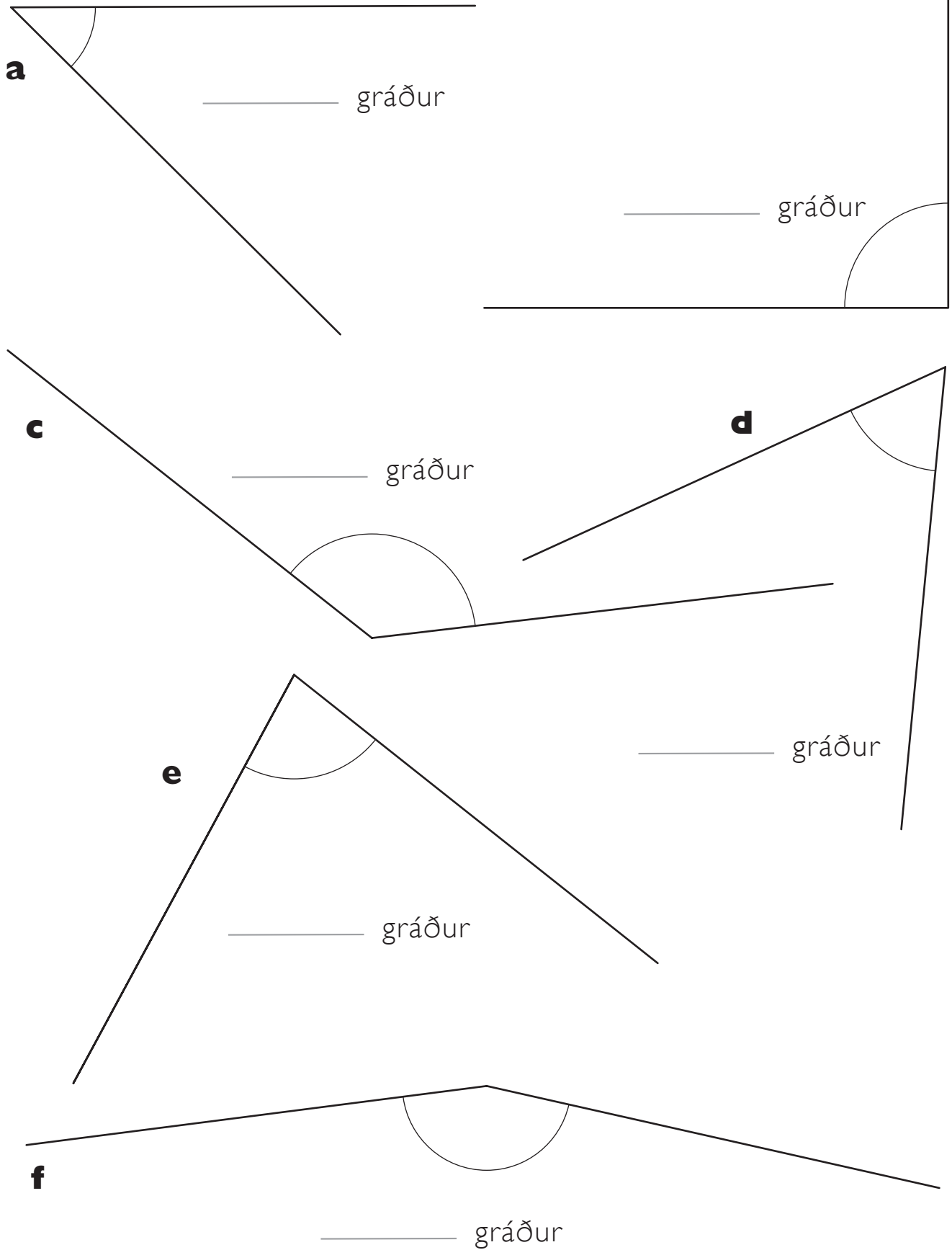


_____ gráður



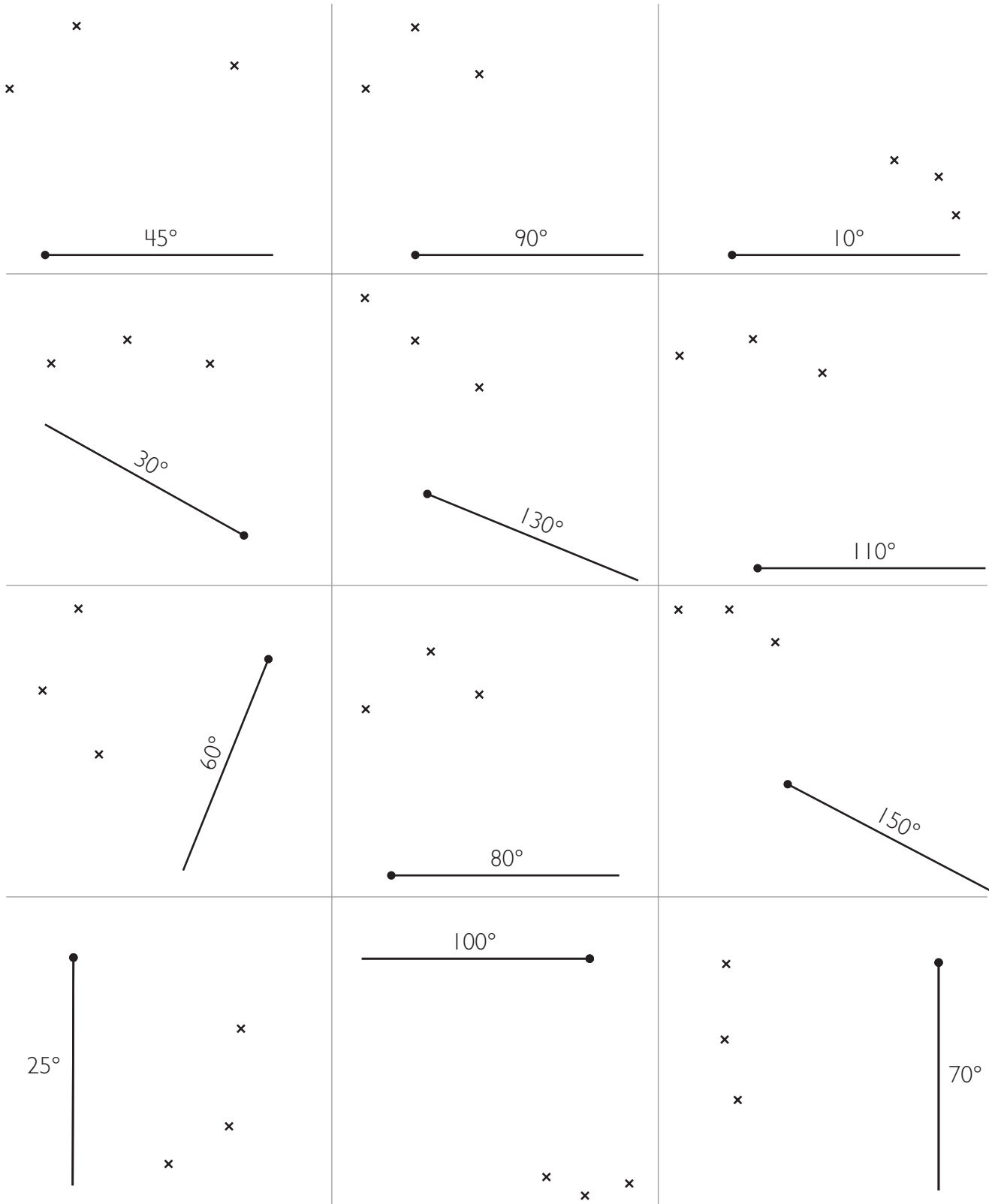
_____ gráður

Hornamælingar með gráðuboga 2




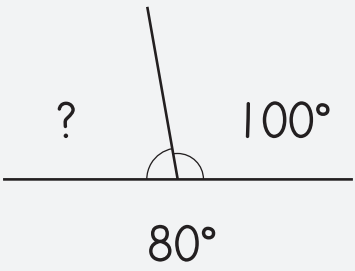
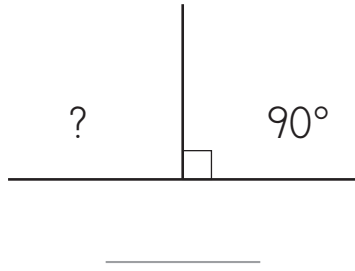
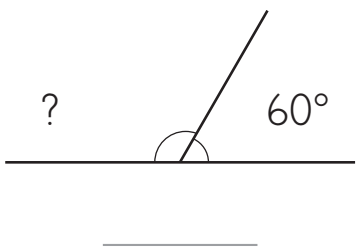
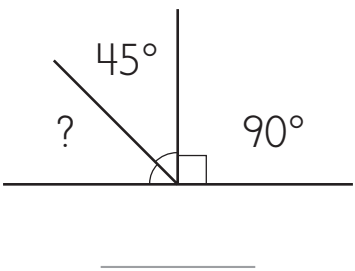
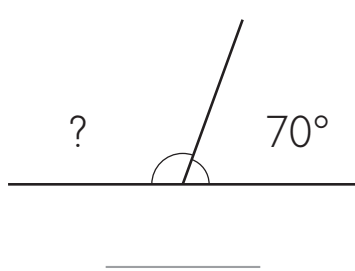
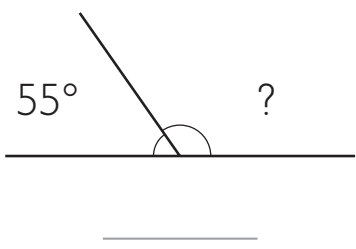
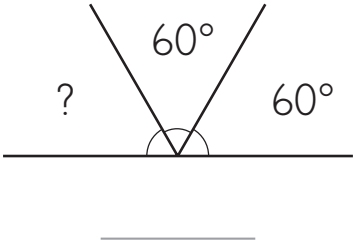
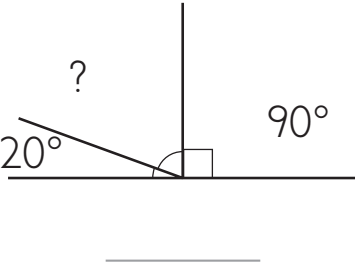
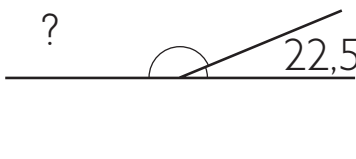
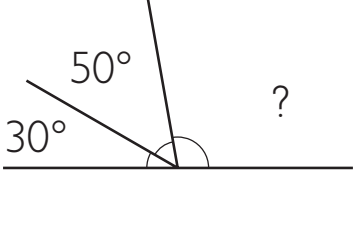
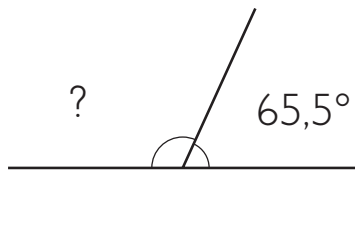
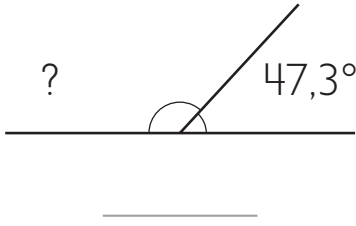
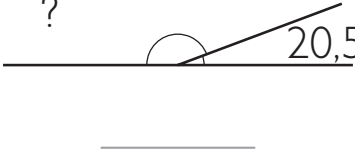
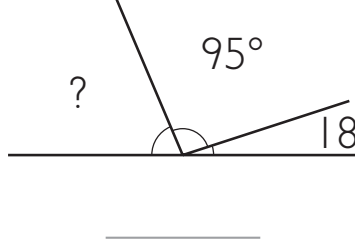
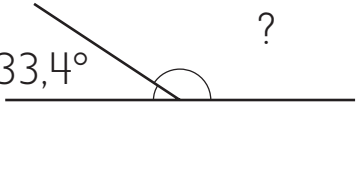
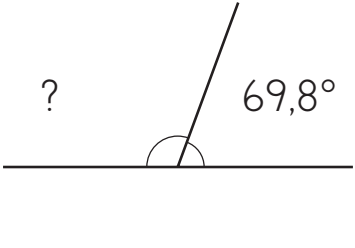
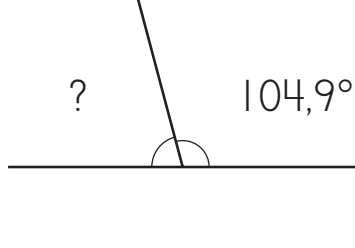
Teikna hinn arm hornsins

Ljúktu við að teikna hornin sem gefin eru upp. Það vantar annan arm hornanna. Veldu einn punkt af þremur í hverju verkefni til að láta arminn fara í gegnum. Mældu síðan með gráðuboga og athugaðu hvort hornið er af réttri stærð.



Reikna hornastærð

Reiknaðu hvað óþekkta hornið er margar gráður.

 <p>180°</p>	 <p>? 100°</p> <p>80°</p>	 <p>? 90°</p>
 <p>? 60°</p>	 <p>45° 90°</p> <p>?</p>	 <p>? 70°</p>
 <p>55° ?</p>	 <p>60° ?</p>	 <p>? 90°</p> <p>20° ?</p>
 <p>? 22,5°</p>	 <p>50° ?</p> <p>30°</p>	 <p>? 65,5°</p>
 <p>? 47,3°</p>	 <p>? 20,5°</p>	 <p>? 95° 18°</p>
 <p>33,4° ?</p>	 <p>? 69,8°</p>	 <p>? 104,9°</p>

Trúðaspil

BÚNAÐUR

Nota skal tvo teninga eða spilaskífu með tölunum 4–9 (sjá 5.154). Einnig má nota venjulegan tening og ákveða að talan 1 tákni 7, talan 2 tákni 8 og talan 3 tákni 9.

LEIKREGLUR

Markmiðið í spilinu er að vera fyrstur að teikna trúðsandlit. Tveimur teningum er kastað eða bréfastemmu snúið á spilaskífu og tölurnar, sem upp koma, margfaldaðar saman.

Svarið segir til um hvað á að teikna á trúðsandlitið. Eftirfarandi reglur gilda:

SVÖR:

16, 20, 24

28, 32, 36

25, 30, 35, 40

42, 45, 48, 49

54, 56, 63

64, 72, 81

TEIKNAÐU:

auga

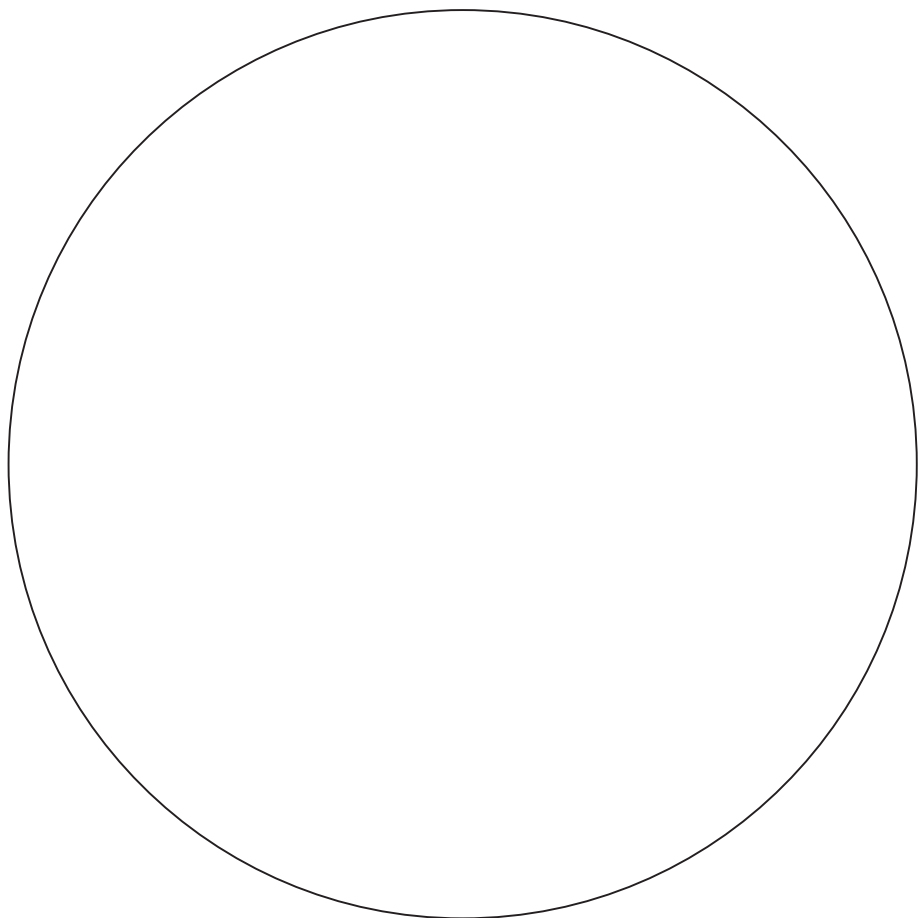
nef

munni

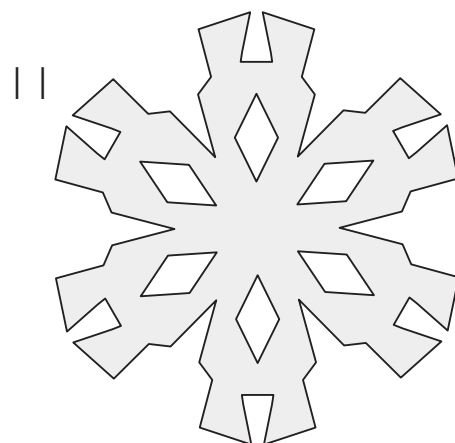
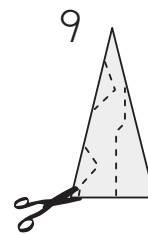
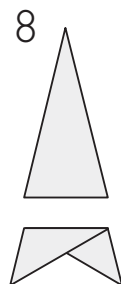
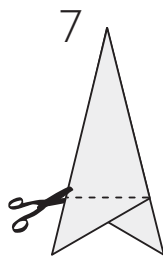
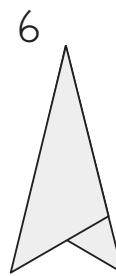
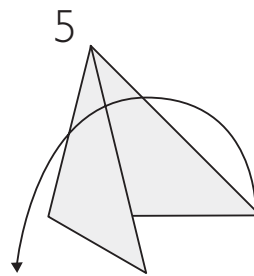
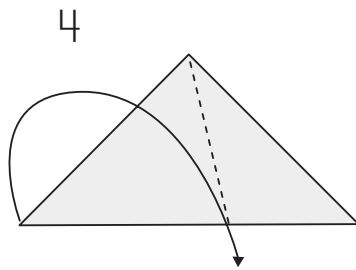
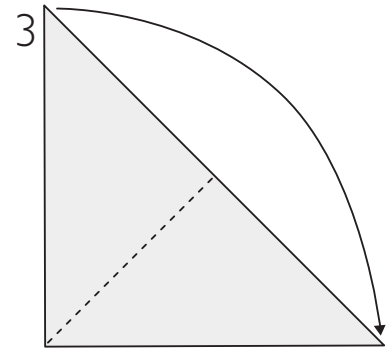
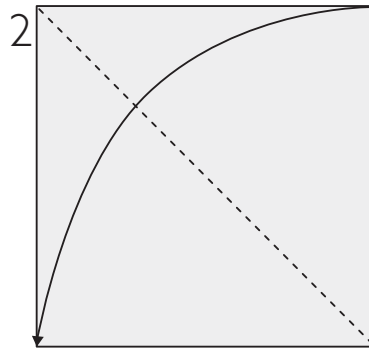
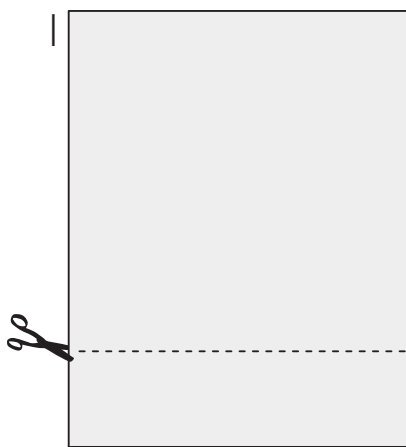
eyra

hár

hatt



Sexhyrndur snjókristall



Kort með jólatré

BÚNAÐUR

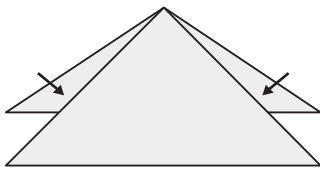
Jólagjafapappír, gullstjarna eða glanspappír, grænn eða rauður karton, skæri og lím.

UPPSKRIFT

Teiknaðu að minnsta kosti fimm ferninga á jólapappír. Hliðarnar í hverjum ferningi eiga að verða lengri en í þeim fyrri. Klipptu þá út og brjóttu hvern ferning í „greinakrans“.

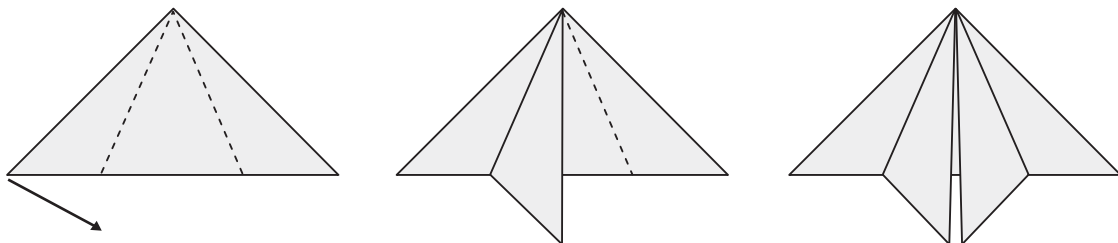
Brjóttu ferninginn eftir báðum hornalínunum. Opnaðu hann aftur, snúðu honum á hvolf og brjóttu hann í tvo jafn stóra rétthyrninga eftir miðjunni. Opnaðu ferninginn.

Hve marga þríhyrninga sérðu nú á ferningnum?



Búðu núna til þríhyrning með því að brjóta efri hluta rétthyrningsins, þ.e. vinstri og hægri hlið, inn í rétthyrninginn þannig að þríhyrningur myndist. Hliðarnar í honum eru þannig hornalínur í ferningnum.

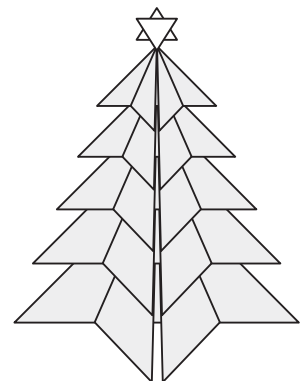
Hvað eru þríhyrningarnir tveir sem þú sérð núna stór hluti af ferningnum? _____



Nú tekurðu í tvö neðri horn þríhyrningsins og brýtur þau hvort að öðru þannig að þau mætist í miðju (sjá mynd). Þar með er „greinakransinn“ tilbúinn.

Hve margir spegilásar eru í „greinakransinum“? _____

Brjóttu hina ferningana á sama hátt og búðu til jólatré með því að raða þeim saman. Límdu þá á pappa sem má t.d. nota sem jólakort. Byrjaðu á toppnum á trénu og mundu að hafa pláss fyrir litla stjörnu efst. Stingdu næsta þríhyrningi („greinakransi“) hálf leið inn í þríhyrninginn fyrir ofan og límdu hann fastan. Þannig heldurðu áfram þar til búið er að líma alla þríhyrningana á jólakortið og jólatréð er tilbúið.





Stærðfræði fyrir grunnskóla
