An Chéimseata 2: Triantáin agus Ciorcail

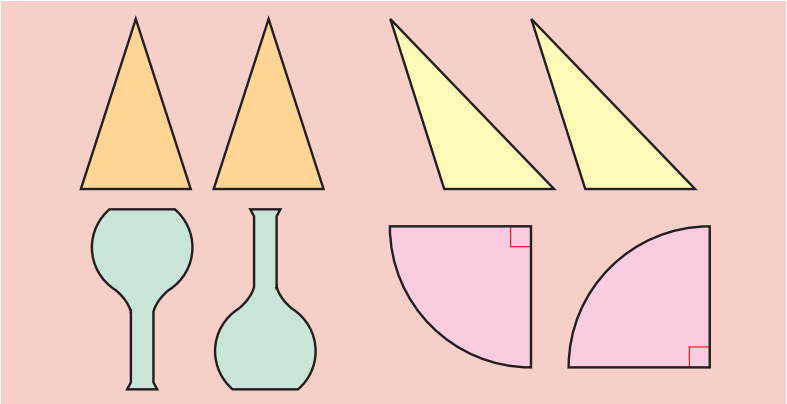
caibidil 18

Sa chaibidil seo, foghlaimeoidh tú conas:

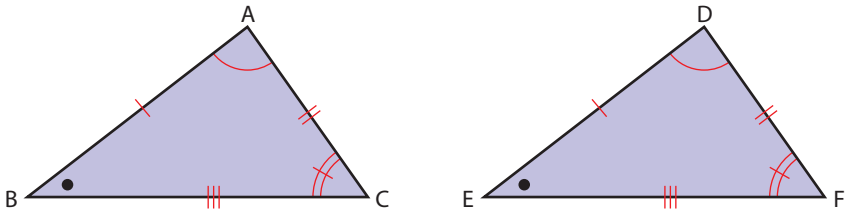
- na 4 thástáil do thriantáin iomchuí a úsáid lena fháil amach an bhfuil dhá thriantán iomchuí dá chéile,
- triantáin iomchuí a úsáid chun airíonna céimseatúla a chruthú,
- a aithint go bhfuil dhá thriantán comhchosúil le chéile ach a n-uillinneacha a chur i gcomparáid le chéile,
- úsáid a bhaint as cóimheas chun teacht ar shleasa atá ar lár ó thriantáin chomhchosúla,
- a chruthú gur dronuillinn í uillinn atá taobh istigh de leathchiorcal,
- teacht ar uillinneacha éagsúla atá ar lár taobh istigh de chiorcail.

Mír 18.1 Triantáin iomchuí

Dhá fhíor a bhfuil **an mhéid chéanna** iontu agus **an cruth céanna** orthu, deirtear go bhfuil siad **iomchuí** dá chéile.
Léiríonn na léaráidí thíos roinnt cruthanna atá iomchuí dá chéile, cé go bhfuil roinnt de na cruthanna bunoscionn nó casta thart beagáinín.



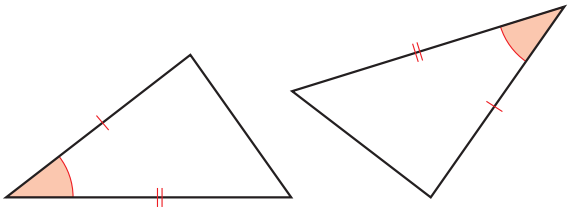
Tá an dá thriantán thíos iomchuí dá chéile mar gurb ionann na huillinneacha go léir atá iontu agus na sleasa go léir atá orthu.



Tugtar uillinneacha **comhfhreagracha** ar na huillinneacha a bhfuil ponc • orthu.
Ar an gcaoi chéanna, tá na sleasa [AC] agus [DF] comhfhreagrach dá chéile toisc gur os comhair uillinneacha comhfhreagracha atá siad.

Uaireanta, níl sé follasach go bhfuil dhá thriantán iomchuí dá chéile.

Féach ar an dá thriantán ar dheis, mar shampla.
Cé nach mbeadh sé follasach ar an gcéad amharc, tá an dá thriantán iomchuí dá chéile.



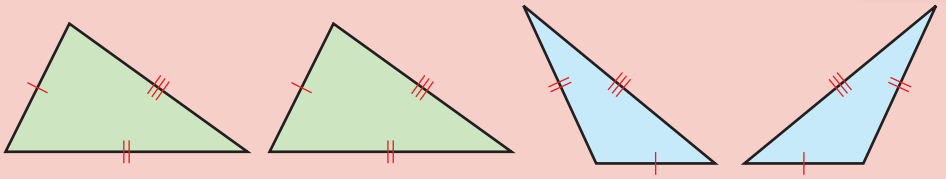
Tástálacha do thriantáin iomchuí

Deirtear go bhfuil dhá thriantán iomchuí dá chéile má shásaíonn siad **aon** cheann de na coinníollacha seo a leanas:

1. Tá dhá thriantán iomchuí dá chéile má tá na trí shlios ar thriantán amháin ar comhfhad leis na trí shlios ar an triantán eile (SSS).

Cás 1
SSS.

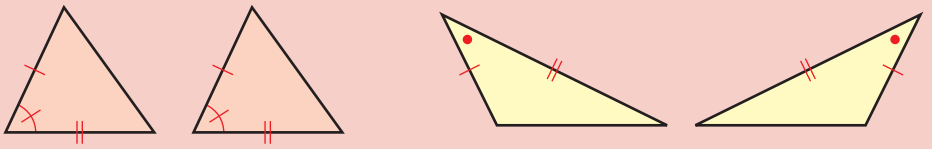
Tá an dá phéire triantán thíos iomchuí dá chéile.



2. Tá dhá thriantán iomchuí dá chéile má tá dhá phéire sleasa ar comhfhad lena chéile agus na huillinneacha eatarthu ar cóimhéid (SUS).

Cás 2
SUS.

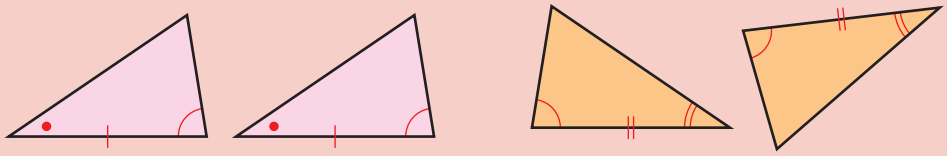
Cuimhnigh go gcaithfidh na huillinneacha atá ar cóimhéid lena chéile a bheith idir na sleasa atá ar comhfhad lena chéile.
Tá an dá phéire triantán sa léaráid thíos iomchuí dá chéile.



3. Tá dhá thriantán iomchuí dá chéile má tá dhá phéire uillinneacha ar cóimhéid lena chéile agus na sleasa eatarthu ar comhfhad lena chéile (USU).

Cás 3 USU.

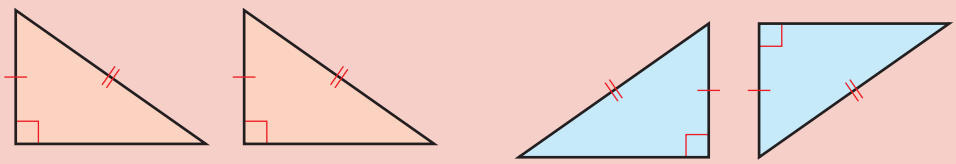
Tá an dá phéire triantán sa léaráid thíos iomchuí dá chéile.



4. Tá dhá thriantán iomchuí dá chéile má tá dronuillinn sa dá cheann acu agus má tá an taobhagán agus slios amháin eile ar an dá thriantán ar comhfhad lena chéile.

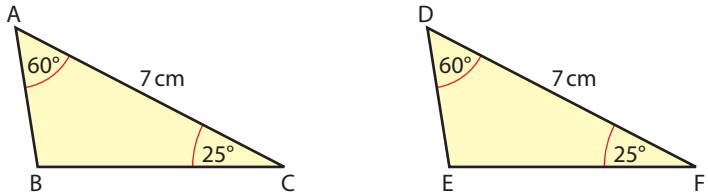
Cás 4 DTS.

'Dronuillinn-taobhagán-slios' (DTS) a thugtar ar an gcoinníoll sin.
Tá an dá phéire triantán thíos iomchuí dá chéile.



Sleasa agus uillinneacha comhfhreagracha

Tá an dá thriantán seo iomchuí dá chéile (USU). Is sleasa comhfhreagracha iad [DE] agus [AB] toisc go bhfuil an dá cheann acu os comhair na huillinne 25°.

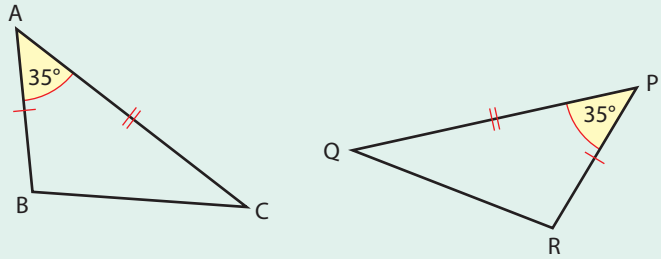


Ar an gcaoi chéanna, is sleasa comhfhreagracha iad [EF] agus [BC] toisc go bhfuil an dá cheann acu os comhair na huillinne 60°.
Is uillinneacha comhfhreagracha iad ABC agus DEF toisc go bhfuil an dá cheann acu os comhair an tsleasa atá 7 cm ar fad.

Nóta: Má tá na triantáin ABC agus DEF iomchuí dá chéile, is féidir é sin a scríobh mar seo: **△ABC ≡ △DEF**.

Sampla 1

Mínigh cén fáth a bhfuil an dá thriantán seo iomchuí dá chéile.



Tá na triantáin iomchuí dá chéile mar go bhfuil dhá phéire sleasa ar comhfhad lena chéile agus na huillinneacha eatarthu ar cóimhéid lena chéile.

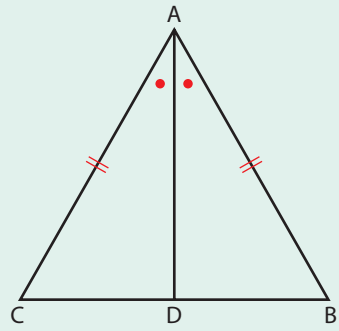
Is féidir roinnt mhaith teoirimí agus ceisteanna eile céimseatan a réiteach ach a léiriú go bhfuil dhá thriantán iomchuí dá chéile.

Léiríonn an sampla thíos gur féidir airí an-tábhachtach de chuid na dtriantán comhshleasach a chruthú ach úsáid a bhaint as triantáin iomchuí.

Sampla 2

Sa triantán ABC, tá $|AC| = |AB|$
agus déroinneann [AD] an uillinn CAB.

Cruthaigh go bhfuil $|\angle ACD| = |\angle ABD|$.



Sna triantáin ACD agus ABD, tá

$|AC| = |AB|$ … tugtha

$|AD| = |AD|$ … slios i bpáirt acu

$|\angle CAD| = |\angle BAD|$ … mar go ndéroinneann [AD]$\angle$CAB

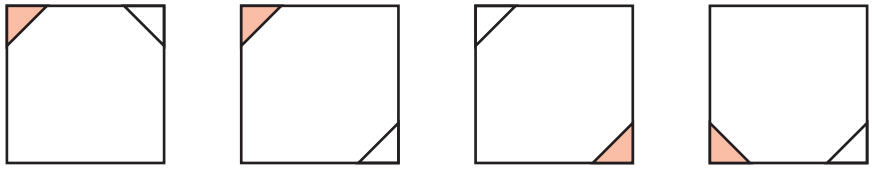
$\therefore$ $\triangle ACD \equiv \triangle ABC$ … SUS

$\therefore$ $|\angle ACD| = |\angle ABD|$ … uillinneacha comhfhreagracha, iad araon os comhair [AD].

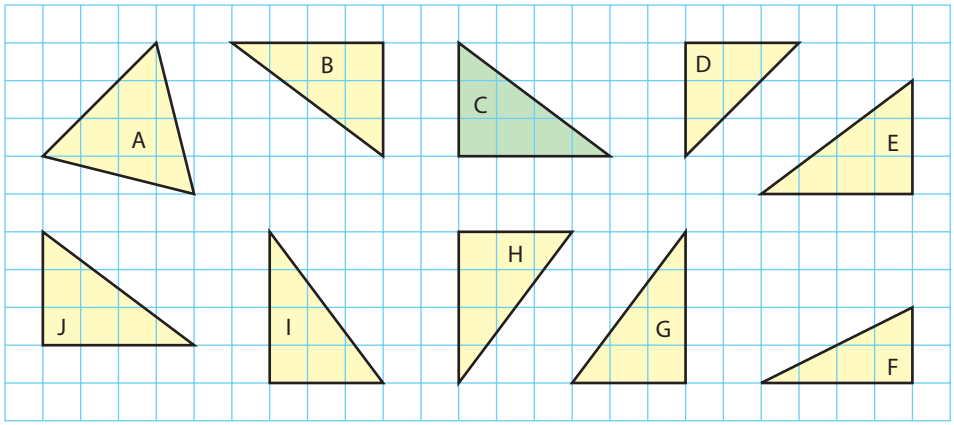
Tabhair faoi deara: Tá cruthúnais ar Theoirimí le fáil i gCaibidil 25 (An Chéimseata 3).

Cleachtadh 18.1

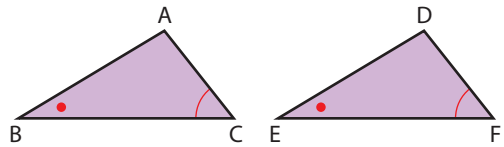
1. Abair cé acu de na péirí cruthanna seo atá iomchuí dá chéile.



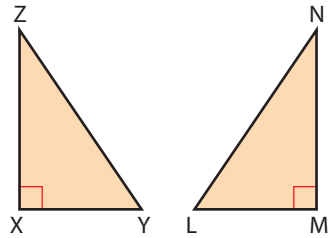
2. Ainmnigh na cruthanna uile atá iomchuí don chruth uaine.



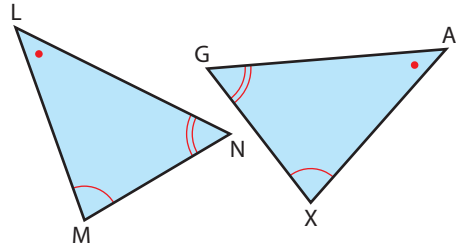
3. Tá na triantáin ABC agus DEF ar dheis iomchuí dá chéile.
Cé acu slios a fhreagraíonn do
(i) [AB] (ii) [EF]
(iii) [AC] (iv) [DE]?



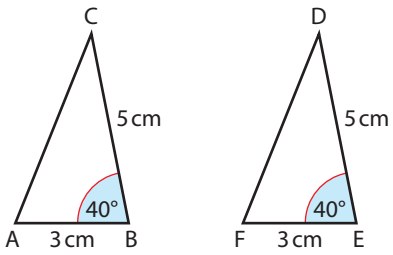
4. Tá na triantáin ar dheis iomchuí dá chéile.
(i) Cé acu slios atá ag freagairt do [XZ]?
(ii) Cé acu slios atá ag freagairt do [LN]?
(iii) Cé acu uillinn atá ag freagairt do ∠XYZ?
(iv) Cé acu uillinn atá ag freagairt do ∠LMN?



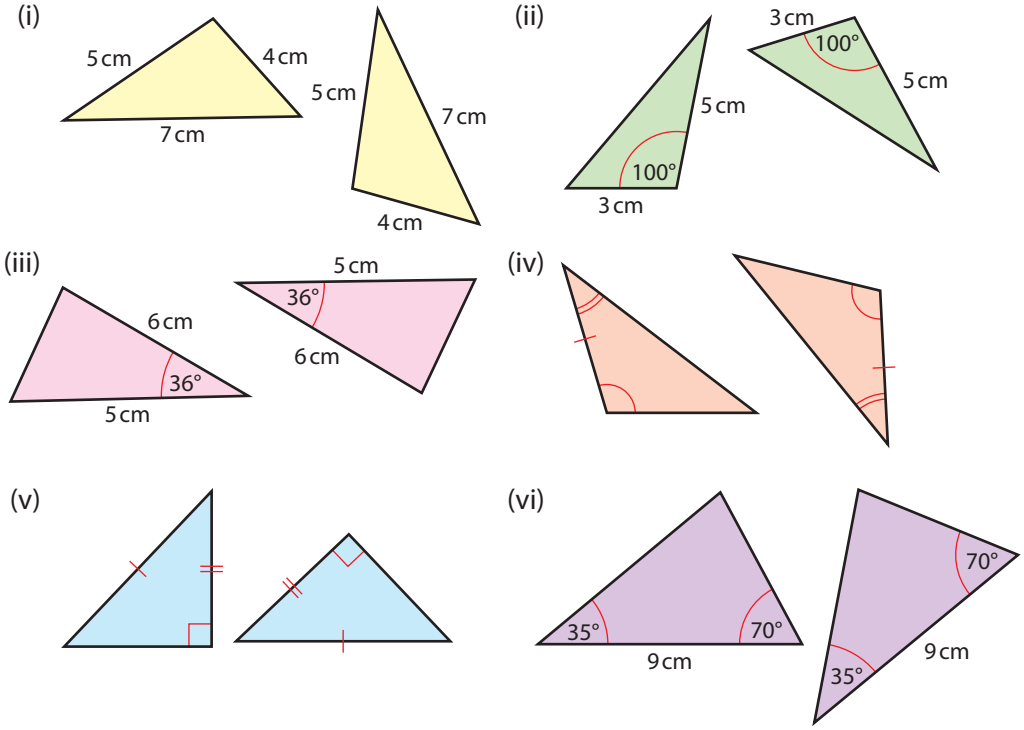
5. Is iomchuí dá chéile na triantáin seo.
Tá na huillinneacha cothroma marcáilte.
(i) Cé acu slios a fhreagraíonn do [MN]?
(ii) Cé acu slios a fhreagraíonn do [AG]?
(iii) Cé acu slios a fhreagraíonn do [LM]?



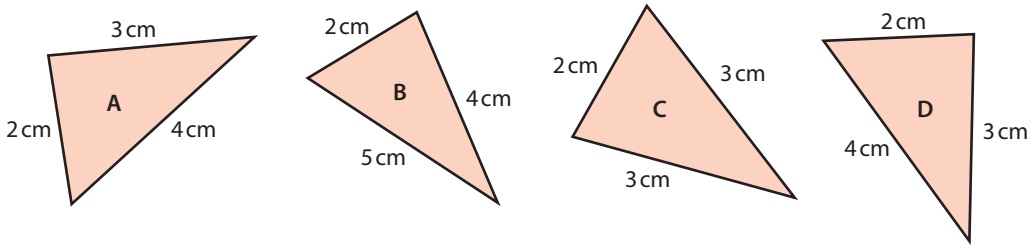
6. Mínigh cén fáth a bhfuil an dá thriantán ar dheis iomchuí dá chéile.



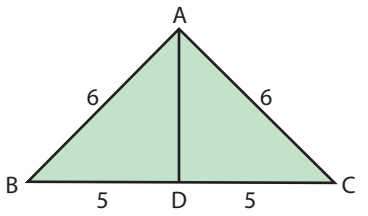
7. Cén fáth a bhfuil na péirí triantán seo a leanas iomchuí dá chéile. Bain úsáid as SSS, SUS, USU nó DTS le míniú a thabhairt ar do chuid freagraí.



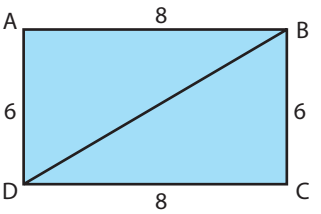
8. Cé acu péire de na triantáin seo atá iomchuí dá chéile? Mínigh le do fhreagra.



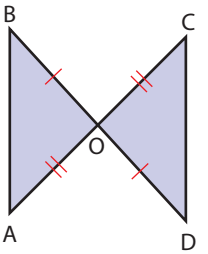
9. Mínigh cén fáth a bhfuil na triantáin ABD agus ADC ar dheis iomchuí dá chéile.



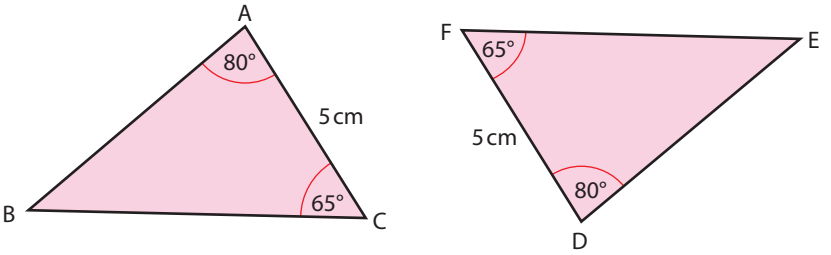
10. An bhfuil na triantáin ABD agus BCD ar dheis iomchuí dá chéile?
Mínigh do fhreagra.



11. Mínigh cén fáth a bhfuil na triantáin AOB agus COD iomchuí dá chéile.

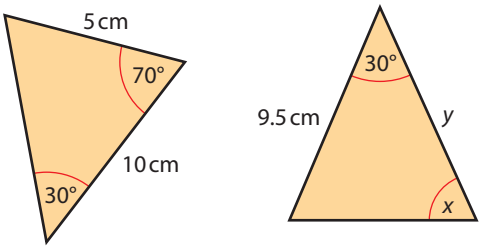


12. Mínigh cén fáth a bhfuil an dá thriantán thíos iomchuí dá chéile.



(i) Cé acu slios a chomhfhreagraíonn do [BC]?
(ii) Cé acu slios a chomhfhreagraíonn do [DE]?
(iii) Faigh $|\angle DEF|$.

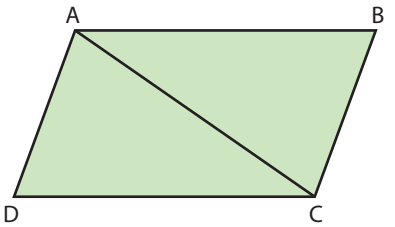
13. Is iomchuí dá chéile na triantáin seo.
Scríobh síos luach *x* agus luach *y*.



14. Is comhthreomharán é ABCD.

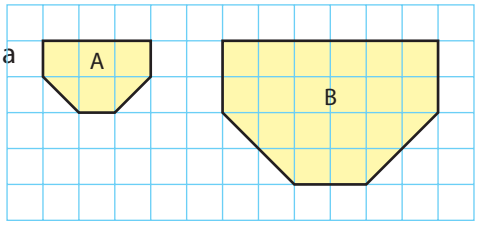
Léirigh go bhfuil na triantáin ABC agus ACD iomchuí dá chéile.

Uaidh sin, mínigh cén fáth a bhfuil na huillinneacha ABC agus ADC ar cóimhéid lena chéile.



Mír 18.2 Triantáin chomhchosúla

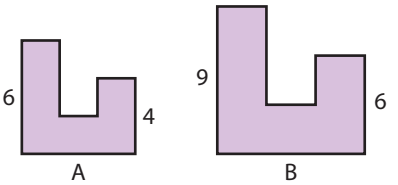
Is cruthanna comhchosúla iad A agus B.
Ar cóimhéid atá na huillinneacha comhfhreagracha ar fad agus tá na sleasa i gcruth B dhá oiread níos faide ná na sleasa comhfhreagracha i gcruth A.



Deirtear go bhfuil dhá fhíor **comhchosúil** lena chéile má tá:

- na **cruthanna** mar an gcéanna
- na h**uillinneacha** ar cóimhéid lena chéile
- na **faid** chomhfhreagracha **sa chóimheas céanna**.

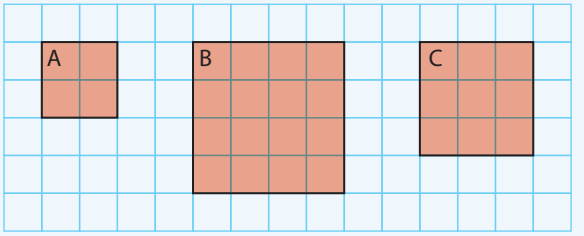
Tá na sleasa i bhfíor B $1\frac{1}{2}$ oiread níos faide ná na sleasa comhfhreagracha i bhfíor A, mar shampla.



Fiosrú:

Fiosraigh na cearnóga A, B agus C sa léaráid.

Bain úsáid as an ngreille a thugtar chun na cóimheasa seo a leanas idir na sleasa a chóipeáil agus a chríochnú.



A : B	A : C	C : B

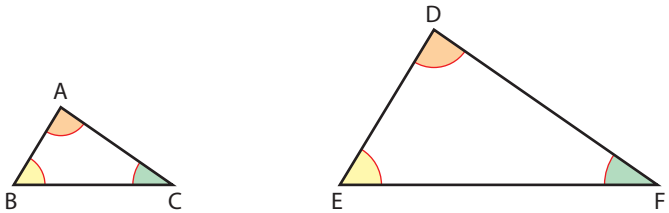
Má tá gach slios ar chearnóg A 6 cm ar fad, faigh fad gach sleasa ar chearnóg B agus cearnóg C.

B	C

Má tá trasnán B 17 cm ar fad, faigh fad thrasnán A agus fad thrasnán C.

A	C

Triantáin chomhchosúla



Bíonn an cruth céanna ar thriantáin chomhchosúla ach ní bhíonn siad ar cóimhéid lena chéile.

Tá na huillinneacha sna triantáin ABC agus DEF thuas ar cóimhéid lena chéile. Tabhair faoi deara gurb é an cruth céanna atá ar an dá thriantán ach go bhfuil ceann amháin níos mó ná an ceann eile.
Deirtear gur triantáin **chomhchosúla** nó triantáin **chomhuilleacha** iad na triantáin sin. Deirtear gur **sleasa comhfhreagracha** iad [BC] agus [EF] toisc go bhfuil siad os comhair uillinneacha atá ar cóimhéid lena chéile. Is sleasa comhfhreagracha iad [AB] agus [DE] freisin.
Ós rud é go bhfuil gach slios ar an triantán DEF dhá oiread níos faide ná an slios comhfhreagrach ar an triantán ABC, deirtear go bhfuil na sleasa **sa chóimheas céanna** nó go bhfuil siad **i gcomhréir lena chéile**.

Triantán comhuilleach: triantán ina bhfuil na huillinneacha comhfhreagracha ar fad ar cóimhéid lena chéile.

Sna triantáin thuas, is ionann $|AB|$ agus leath $|DE|$.
Ar an gcaoi chéanna, tá $|BC| = \frac{1}{2}|EF|$ agus tá $|AC| = \frac{1}{2}|DF|$.

Dá réir sin, tá $\frac{|AB|}{|DE|} = \frac{|BC|}{|EF|} = \frac{|AC|}{|DF|} = \frac{1}{2}$

Ós rud é go bhfuil gach slios ar an triantán DEF dhá oiread níos faide ná an slios comhfhreagrach ar an triantán ABC, deirtear go bhfuil na sleasa **sa chóimheas céanna** nó go bhfuil siad **i gcomhréir lena chéile**.

Sna triantáin thuas, is ionann $|AB|$ agus leath $|DE|$.
Ar an gcaoi chéanna, tá $|BC| = \frac{1}{2}|EF|$ agus tá $|AC| = \frac{1}{2}|DF|$.

Dá réir sin, tá $\frac{|AB|}{|DE|} = \frac{|BC|}{|EF|} = \frac{|AC|}{|DF|} = \frac{1}{2}$

Tugtar an toradh tábhachtach sin i dtaca le triantáin chomhchosúla sa teoirim ar dheis.

Teoirim
Más triantáin chomhchosúla iad ABC agus DEF, beidh na sleasa comhfhreagracha orthu i gcomhréir lena chéile.

$$\frac{|AB|}{|DE|} = \frac{|BC|}{|EF|} = \frac{|AC|}{|DF|}$$

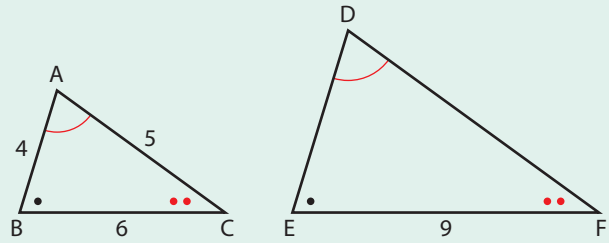
Tá **coinbhéarta** na teoirime sin fíor freisin.

Má tá na sleasa ar dhá thriantán i gcomhréir lena chéile, ansin is triantáin chomhchosúla iad.

Nóta: Tá dhá thriantán comhchosúil lena chéile má tá dhá uillinn i dtriantán amháin ar cóimhéid le dhá uillinn sa triantán eile. Is triantáin chomhuilleacha nó triantáin chomhchosúla iad mar go gcaithfidh an tríú huillinn sa dá thriantán a bheith ar cóimhéid lena chéile freisin.

Sampla 1

Is triantáin chomhchosúla iad ABC agus DEF.
Faigh fad na sleasa
(i) [DE]
(ii) [DF]



(i) Is sleasa comhfhreagracha iad [DE] agus [AB].
Tá gach slios ar an triantán DEF $1\frac{1}{2}$ oiread níos faide ná an slios comhfhreagrach ar an triantán ABC mar go bhfuil 9 $1\frac{1}{2}$ oiread níos mó ná 6.

$\therefore\ |DE| = 1\frac{1}{2}|AB|$

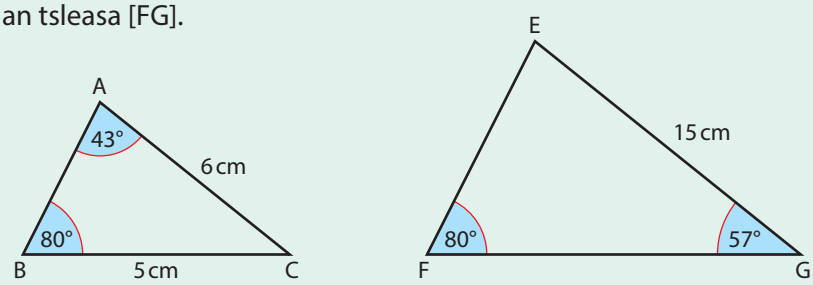
$|DE| = 1\frac{1}{2}(4) = 6$

(ii) $|DF| = 1\frac{1}{2}|AC|$

$|DF| = 1\frac{1}{2}(5) = 7\frac{1}{2}$

Sampla 2

(i) Léirigh gur triantáin chomhchosúla iad ABC agus EFG.
(ii) Faigh fad an tsleasa [FG].



(i) Faigh na huillinneacha atá ar iarraidh:

$|\angle ACB| = 180° - 80° - 43° = 57°$
$|\angle FEG| = 180° - 80° - 57° = 43°$

Ós rud é go bhfuil na huillinneacha 80°, 57° agus 43° i ngach ceann den dá thriantán, is triantáin chomhchosúla iad.

(ii) Is sleasa comhfhreagracha iad [FG] agus [BC] ... uillinneacha urchomhaireacha ar cóimhéid

Ós rud é go bhfuil $|EG| = 2\frac{1}{2}|AC| \Rightarrow |FG| = 2\frac{1}{2}|BC|$ ... $15\text{ cm} = 6\text{ cm} \times \left(\frac{5}{2}\right)$

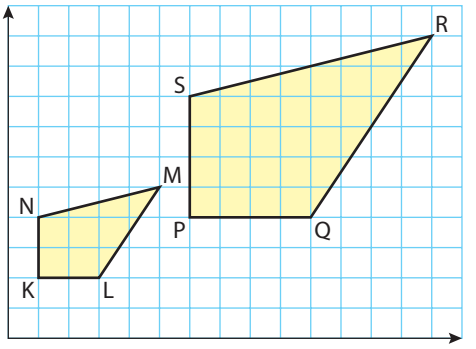
$= 2\frac{1}{2}(5\text{ cm})$

$|FG| = 12.5\text{ cm}$

Cleachtadh 18.2

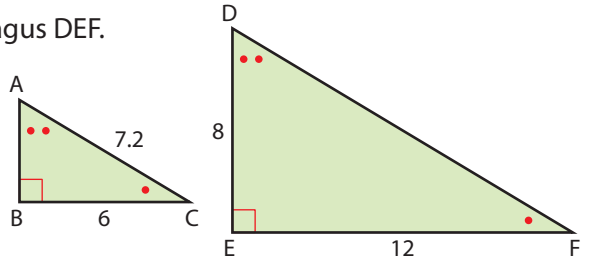
1. Sna fíoracha tugtha, tá gach slios in PQRS dhá oiread níos faide ná an slios comhfhreagrach in KLMN.

(i) Cén slios a fhreagraíonn do [NM]?
(ii) Cén slios a fhreagraíonn do [QR]?
(iii) Má tá $|KL| = 4$, faigh $|PQ|$.
(iv) Má tá $|NM| = 8.2$, faigh $|SR|$.
(v) Má tá $|QR| = 15$, faigh $|LM|$.



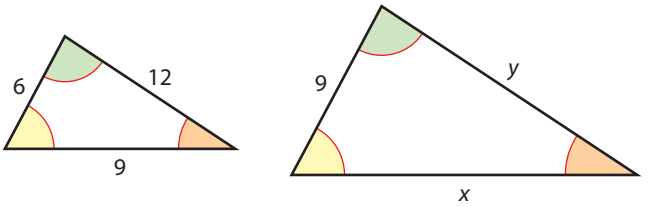
2. Is triantáin chomhchosúla iad ABC agus DEF.

(i) Críochnaigh an cóimheas seo:
$|BC| : |EF| = 6 : 12 = \ldots : \ldots$
(ii) Má tá $|AC| = 7.2$, faigh $|DF|$.
(iii) Má tá $|DE| = 8$, faigh $|AB|$.



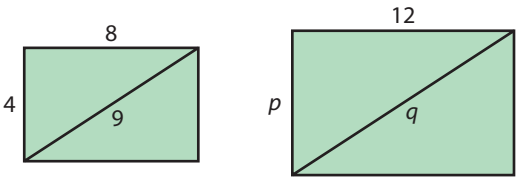
3. Is triantáin chomhchosúla iad na triantáin ar dheis. Faigh fad na sleasa *x* agus *y*.

(v) fad thrasnán A.

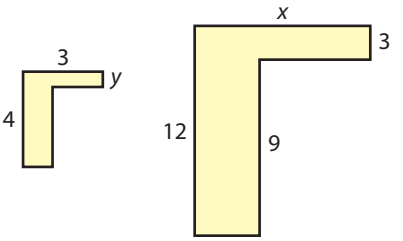


4. Is cruthanna comhchosúla atá in (i) agus (ii) thíos. Faigh fad na sleasa atá marcáilte le litreacha.

(i)

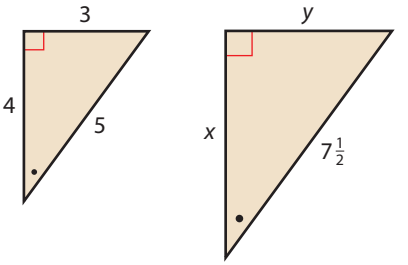


(ii)

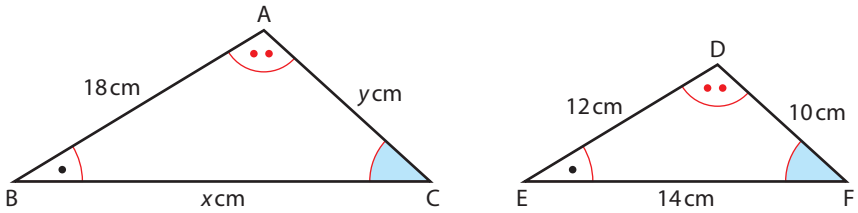


5. Is triantáin chomhchosúla iad na triantáin ar dheis.

(i) Cóipeáil agus comhlánaigh an ráiteas seo:
'Tá gach slios ar an triantán mór... oiread níos faide ná an slios comhfhreagrach ar an triantán beag'.
(ii) Faigh luach *x* agus luach *y*.

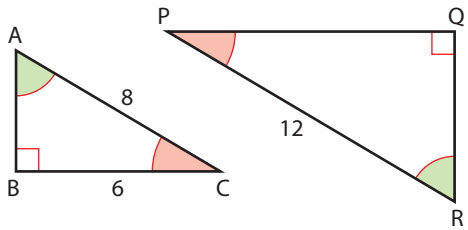


6. Mínigh cén fáth ar triantáin chomhchosúla iad ABC agus DEF.
Faigh luach *x* agus luach *y*.



7. Is triantáin chomhchosúla iad na triantáin ABC agus PQR.
Sa triantán PQR, cén slios a fhreagraíonn do

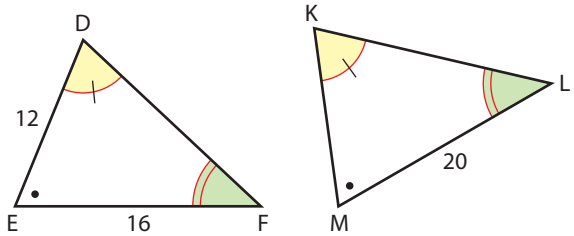
(i) [AB]
(ii) [AC]
(iii) [BC]?



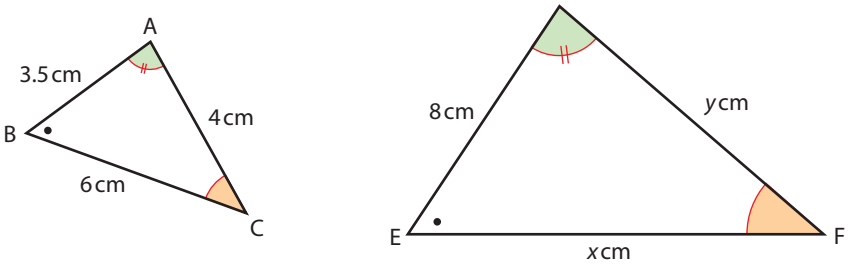
Má tá $|AC| = 8$, $|PR| = 12$ agus $|BC| = 6$, faigh $|PQ|$.

8. Is triantáin chomhchosúla iad DEF agus KLM.

(i) Cén slios ar KLM a fhreagraíonn do [DF]?
(ii) Cén slios ar DEF a fhreagraíonn do [ML]?
(iii) Faigh $|KM|$.



9.

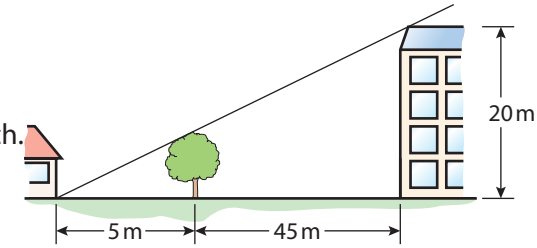


(i) Mínigh cén fáth ar triantáin chomhchosúla iad ABC agus DEF.
(ii) Cén slios ar an triantán DEF a fhreagraíonn don slios [AC]?
(iii) Faigh luach *x* agus luach *y*.

10. As na cineálacha cruthanna thíos cé acu a bhíonn comhchosúil lena chéile i gcónaí?

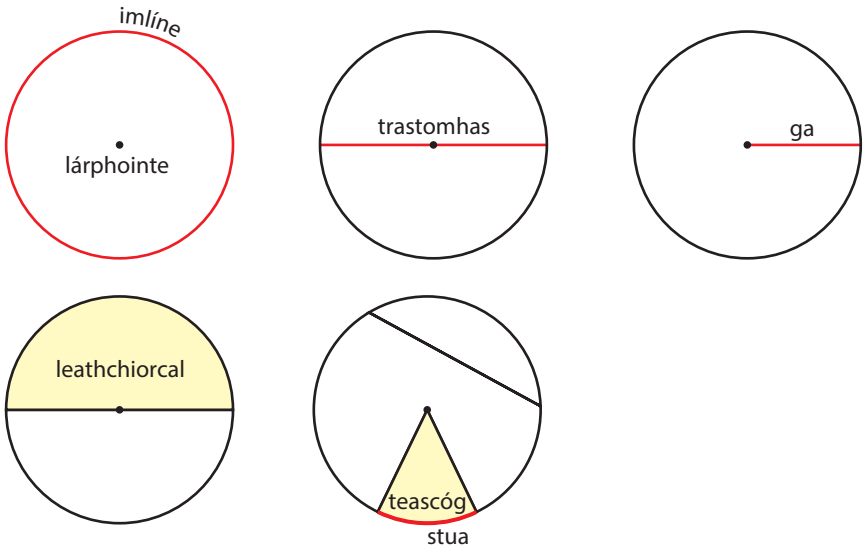
(i) na cearnóga go léir
(ii) na dronuilleoga go léir
(iii) na comhthreomharáin go léir
(iv) na ciorcail go léir
(v) na triantáin chomhshleasacha go léir
(vi) na triantáin chomhchosacha go léir

11. Nuair a chuir Séamus crann 5 m amach ó fhuinneog ina theach, is ar éigean a bhlocáil sé an radharc a bhí aige ar fhoirgneamh a bhí 50 m ar shiúl ón teach. Má bhí an foirgneamh 20 m ar airde, cé chomh hard is a bhí an crann?



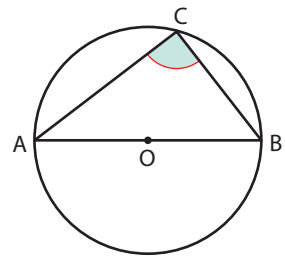
Mír 18.3 Uillinneacha agus ciorcail

Féach na léaráidí thíos. Tugann siad na téarmaí a úsáidtear go minic agus muid ag plé le ciorcail.



1. An uillinn i leathchiorcal

An **uillinn i leathchiorcal** a thugtar ar an uillinn scáthaithe sa léaráid ar dheis, mar gur trastomhas é [AB].
Feicfimid thíos gur dronuillinn í an uillinn i leathchiorcal.



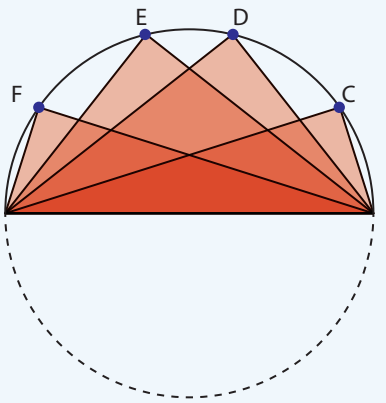
Fiosrú:

Bain úsáid as compás agus píosa páipéir (nó bogearraí ríomhaire) chun ciorcal a tharraingt (is cuma cé chomh fada agus atá an ga).

Roghnaigh **aon** 4 phointe ar imlíne an leathchiorcail agus ceangail na pointí sin leis an dá fhoirceann den trastomhas.

Bain úsáid as uillinntomhas chun na huillinneacha ag na pointí C, D, E agus F a thomhas.

Téigh i gcomhairle le daltaí eile sa rang maidir leis na torthaí a fuair siad; ansin, scríobh tátal.



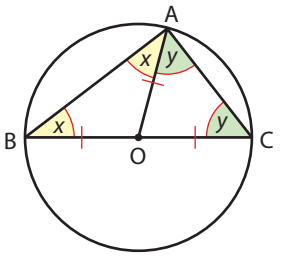
Míniú

Sa chiorcal tugtha, tá

$$|OB| = |OA| = |OC| = \text{ga}.$$

Tá na huillinneacha marcáilte x ar cóimhéid lena chéile mar gur triantán comhchosach é AOB.

Ar an gcaoi chéanna, tá na huillinneacha marcáilte y ar cóimhéid lena chéile.



Má shuimítear na trí uillinn sa $\triangle ABC$, faightear $2x + 2y$.

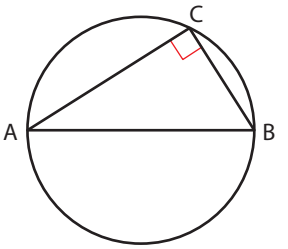
$$\therefore \quad 2x + 2y = 180°$$
$$\therefore \quad 2(x + y) = 180°$$
$$\therefore \quad |\angle x| + |\angle y| = 90°$$

Dá réir sin, tá $|\angle BAC| = 90°$

Is dronuillinn í an uillinn i leathchiorcal.

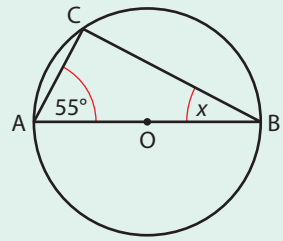
Coinbhéarta

Deirtear go bhfuil an uillinn ACB ina seasamh ar an gcorda [AB]. Má tá $|\angle ACB| = 90°$, ansin is trastomhas é an chiorcail é [AB].



Sampla 1

Faigh luach x sa léaráid ar dheis, áit arb é O lárphointe an chiorcail.



$|\angle ACB| = 90°$ … an uillinn i leathchiorcal

$\angle x + 55° = 90°$ … 180° i dtriantán

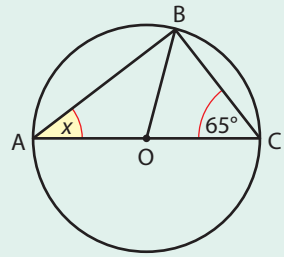
$\angle x = 90° - 55°$

$\angle x = 35°$

Sampla 2

Is trí phointe iad A, B agus C ar chiorcal dar lárphointe O.
Má tá $|\angle OCB| = 65°$, faigh

(i) $|\angle OBC|$ (ii) $|\angle AOB|$ (iii) $|\angle OBA|$.



(i) Is triantán comhchosach é OCB mar go bhfuil $|OC| = |OB| =$ ga.
$\therefore\ |\angle OBC| = |\angle OCB| = 65°$

(ii) $|\angle BOC| = 180° - 65° - 65°$
$\therefore\ |\angle BOC| = 50°$
$\therefore\ |\angle AOB| = 180° - 50° = 130°$

(iii) Ós rud é go bhfuil $|OA| = |OB| =$ ga, $|\angle OAB| = |\angle OBA| = x$
$\therefore x + x + 130° = 180°$ … $|\angle AOB| = 130°$ … ó (i) thuas

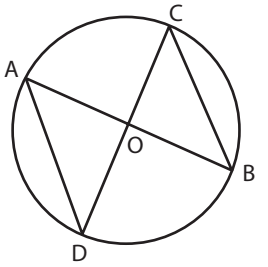
$2x = 50°$

$x = 25°$

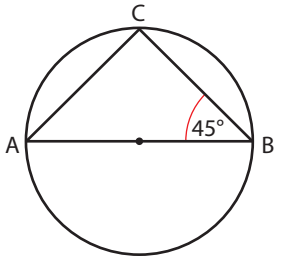
$|\angle OBA| = 25°$

Cleachtadh 18.3

1. Sa chiorcal ar dheis, is é O an lárphointe.
Más é 10 cm trastomhas an chiorcail, faigh
(i) |AB| (ii) |DC|
(iii) |OA| (iv) |OC|
Cén sórt triantáin é AOD?

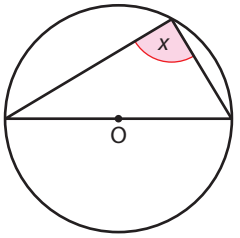


2. Sa chiorcal ar dheis, is trastomhas é [AB].
(i) Mínigh cén fáth ar dronuillinn í ∠ACB.
(ii) Faigh |∠CAB|.
(iii) Déan cur síos ar an triantán ABC ar dhá bhealach.

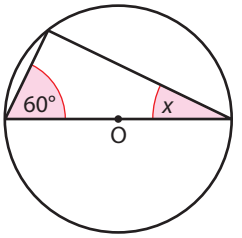


3. Faigh luach *x* i ngach ceann de na ciorcail seo, áit arb é O lárphointe an chiorcail:

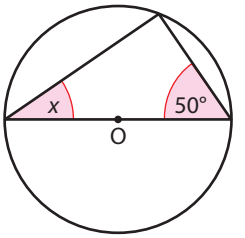
(i)



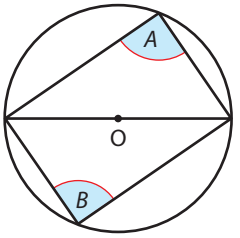
(ii)

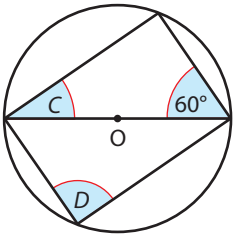


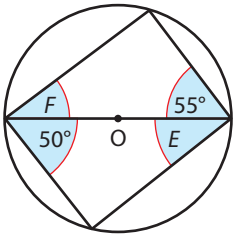
(iii)



4. Scríobh síos méid na n-uillinneacha atá marcáilte le litir i ngach ceann de na ciorcail seo a leanas, dar lárphointe O:

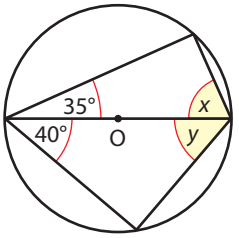




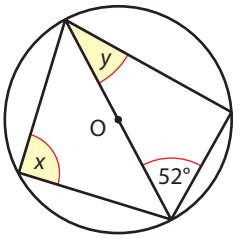


5. Faigh luach na n-uillinneacha marcáilte *x* agus *y* i ngach ceann de na ciorcail seo a leanas dar lárphointe O:

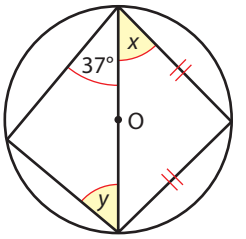
(i)



(ii)



(iii)



6. Sa chiorcal ar dheis, is é O an lárphointe.

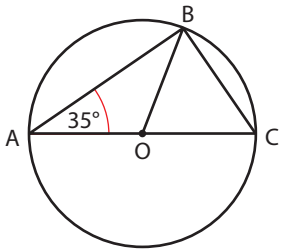
(i) Cén fáth a bhfuil $|OA| = |OB|$?

(ii) Cad é $|\angle ABC|$?

(iii) Cad é $|\angle ABO|$?

(iv) Anois faigh $|\angle OBC|$.

(v) Mínigh cén fáth ar triantán comhchosach é OBC.



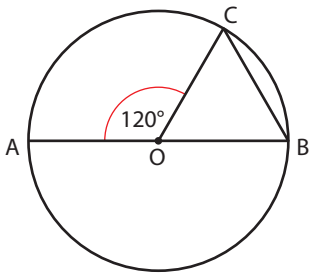
7. Sa chiorcal ar dheis, is é O an lárphointe agus tá $|\angle AOC| = 120°$.

Mínigh cén fáth a bhfuil $|OB| = |OC|$.

Anois faigh

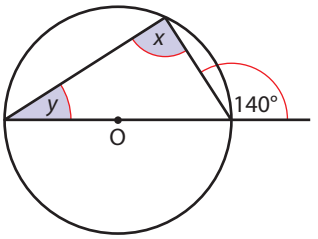
(i) $|\angle COB|$

(ii) $|\angle OCB|$

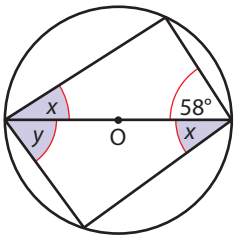


8. Faigh méid na huillinne a bhfuil litir ag freagairt di marcáilte *x* agus *y* i ngach ceann de na ciorcail seo a leanas. Is é O lárphointe an chiorcail i ngach cás.

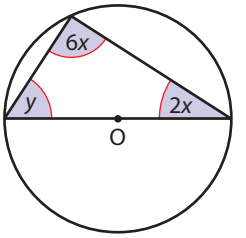
(i)



(ii)

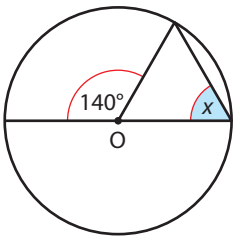


(iii)

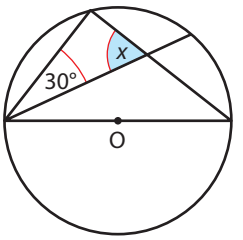


9. Faigh luach na huillinne marcáilte *x* i ngach ceann de na ciorcail seo a leanas, áit arb é O lárphointe an chiorcail:

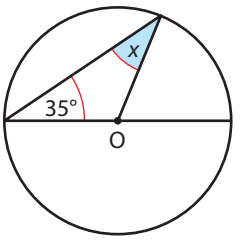
(i)



(ii)



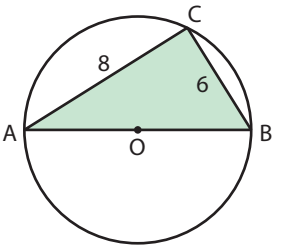
(iii)



10. Cén sórt triantáin é ABC más é O lárphointe an chiorcail?

Má tá $|AC| = 8$ agus $|BC| = 6$, faigh $|AB|$.

Anois, scríobh síos fad gha an chiorcail.



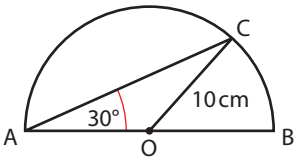
11. Is é [AB] trastomhas ciorcail agus is é O an lárphointe.

$|OC| = 10\text{ cm}$ agus $|\angle CAB| = 30°$

Scríobh síos

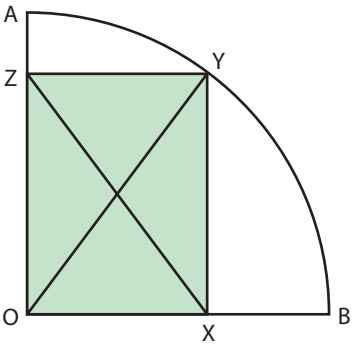
(i) $|AB|$ (ii) $|\angle OCA|$

(iii) $|\angle ACB|$ (iv) $|\angle OCB|$



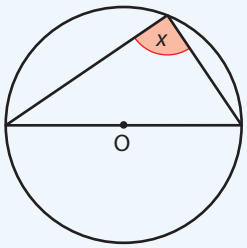
12. Is ceathrú ciorcail é OAB agus is é O an lárphointe. Is dronuilleog é OXYZ.

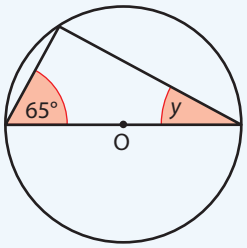
Má tá $|XZ| = 8\text{ cm}$, breathnaigh ar an léaráid agus oibrigh amach fad gha an chiorcail.

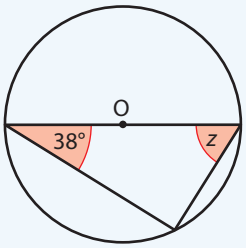


Cuir triail ort féin 18

1. Faigh méid na n-uillinneacha a bhfuil litir ag freagairt dóibh i ngach ceann de na ciorcail seo a leanas. Is é O lárphointe an chiorcail i ngach cás:

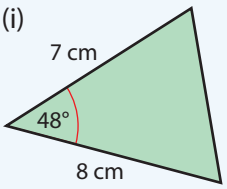




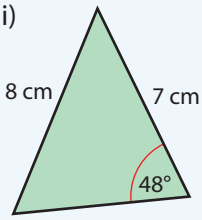


2. Cé acu péire de na triantáin thíos atá iomchuí dá chéile? Tabhair cúis le do fhreagra.

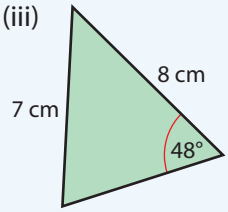
(i)



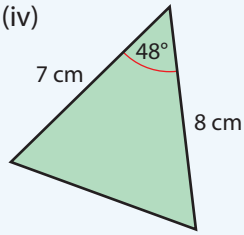
(ii)



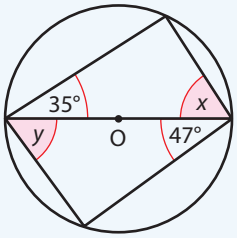
(iii)



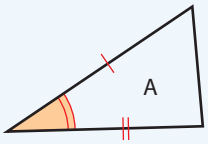
(iv)

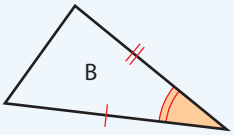


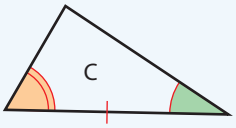
3. Faigh luachanna *x* agus *y* sa chiorcal ar dheis áit arb é O an lárphointe.



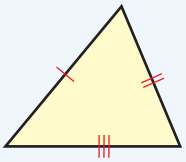
4. Tá péire de na triantáin thíos iomchuí dá chéile. Cé acu péire? Tabhair cúis le do fhreagra.

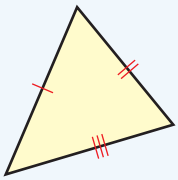




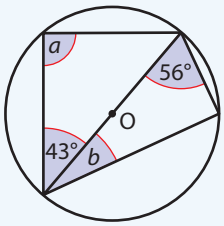


5. Mínigh cén fáth a bhfuil an dá thriantán thíos iomchuí dá chéile.



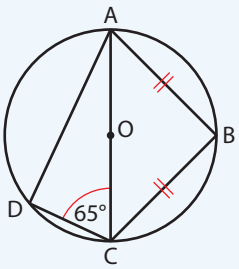


6. San fhíor ar dheis, is é O lárphointe an chiorcail.
Faigh luach *a* agus luach *b*.
Mínigh cúis le do chuid freagraí.



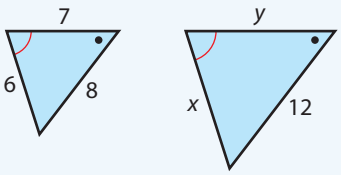
7. Sa chiorcal ar dheis, is é O an lárphointe, tá
$|\angle ACD| = 65°$ agus $|AB| = |BC|$.

(i) Ainmnigh dhá dhronuillinn san fhíor.
(ii) Faigh $|\angle BAC|$.
(iii) Faigh $|\angle BAD|$.



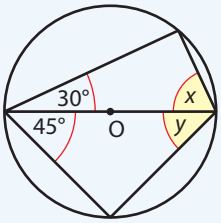
8. Sna triantáin seo, tá na huillinneacha marcáilte ar cóimhéid lena chéile.

(i)Mínigh cén fáth ar triantáin comhchosúla iad an dá thriantán.
(ii)Faigh luach *x* agus luach *y*.

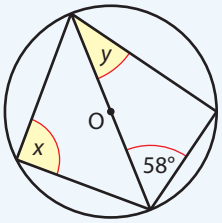


9. Faigh luachanna *x* agus *y* i ngach ceann de na ciorcail seo dar lárphointe O:

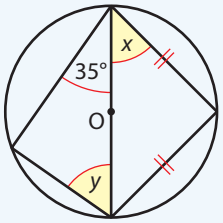
(i)



(ii)

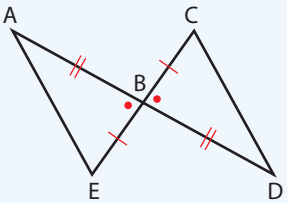


(iii)

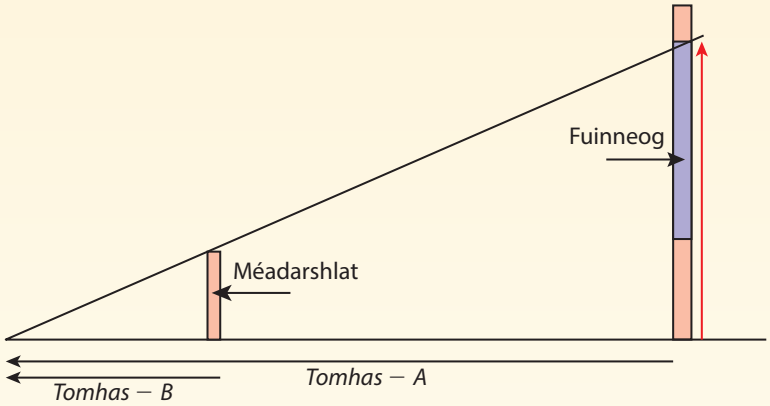


10. Mínigh cén fáth a bhfuil na triantáin ABE agus BCD iomchuí dá chéile.

(i) Cé acu slios a fhreagraíonn do [BE]?
(ii) Cé acu slios a fhreagraíonn do [CD]?
(iii) Cé acu uillinn a fhreagraíonn do $\angle AEB$?



Tasc:



Tá solas ag soilsiú trí fhuinneog seomra ranga agus tá triantán mór le feiceáil idir an balla/an fhuinneog, an t-urlár agus an ga solais atá ag teacht isteach trí bharr na fuinneoige.

Tomhais an fad ón mballa go dtí an pointe ar an urlár ag a gcríochnaíonn an ga solais ó bharr na fuinneoige. *Tomhas A*

Coinnigh méadarshlat ingearach leis an urlár agus bog feadh an urláir í go dtí go mbeidh íomhá bharr na méadarshlaite agus an ga solais ó bharr na fuinneoige ag teacht le chéile.

Tomhais an fad ó bhun na méadarshlaite go dtí ceann an scátha. *Tomhas B*.

Taispeáin go matamaiticiúil gurb é airde na fuinneoige ná $= \frac{A}{B}$

Ríomh airde na fuinneoige.

Tomhais airde na fuinneoige lena fháil amach cé chomh cruinn agus atá do ríomh.

Scríobh tuairisc ar do chuid torthaí.

Tabhair faoi deara: Is féidir an modh seo a chur in oiriúint chun meastachán a dhéanamh ar airde crann nó foirgneamh scoile ach scáth agus talamh réidh a bheith ann le go gcruthófar triantáin chomhchosúla.