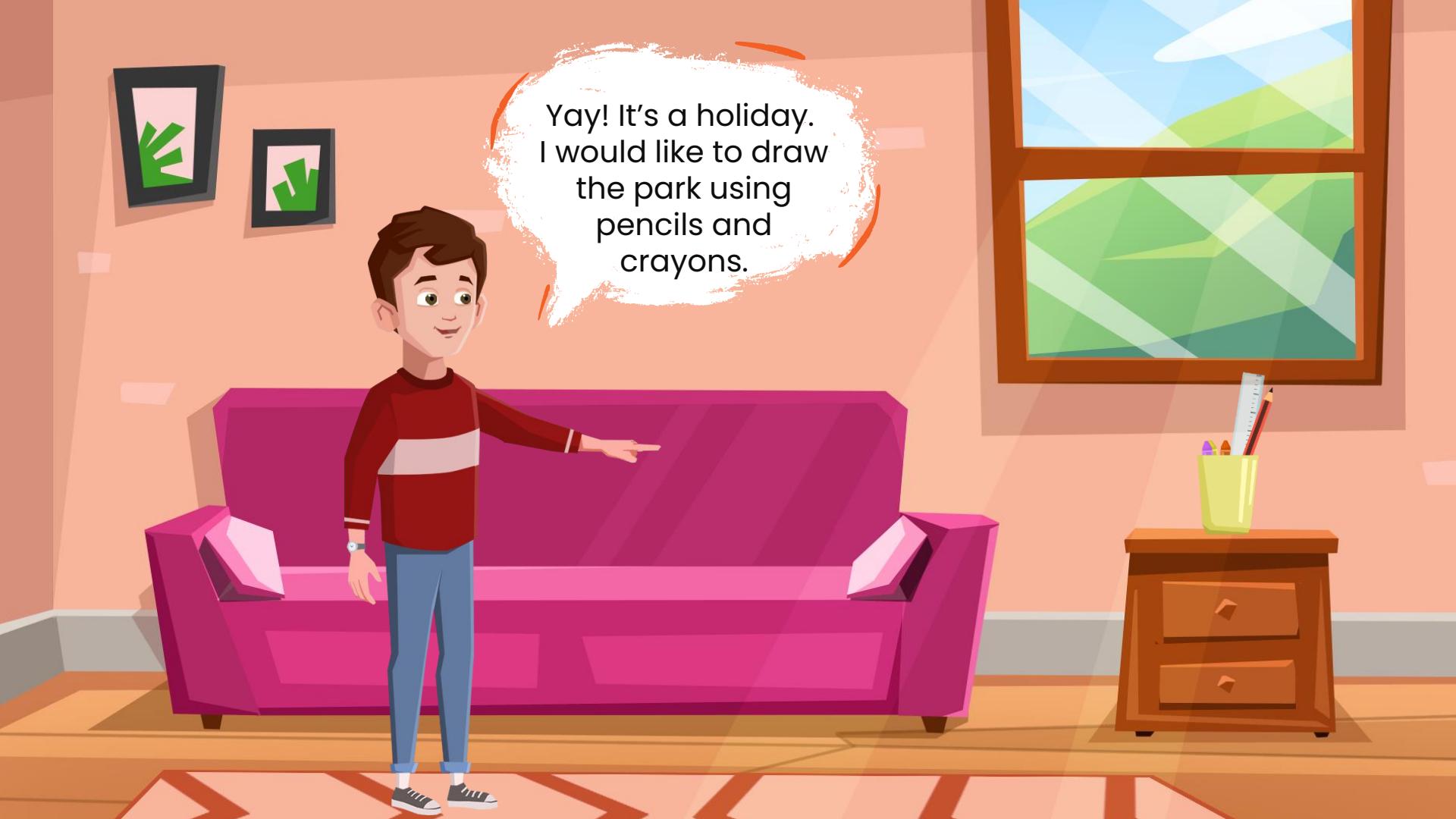


Parallel Lines and Transversals

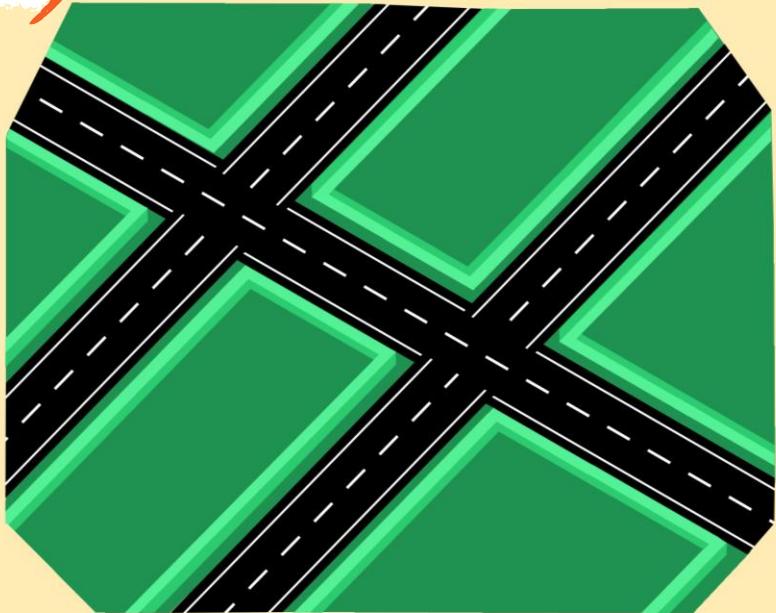




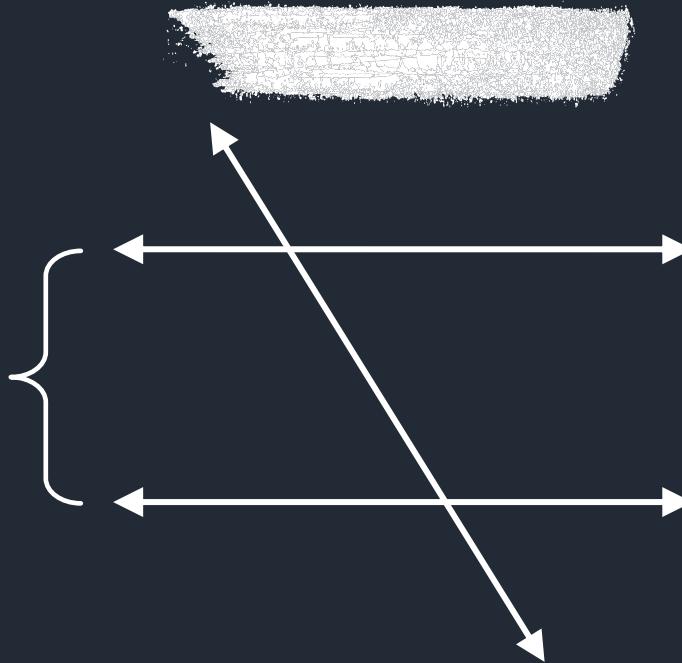
Yay! It's a holiday.
I would like to draw
the park using
pencils and
crayons.



I have drawn grass and roads inside the park. Do the roads represent any special kind of lines?

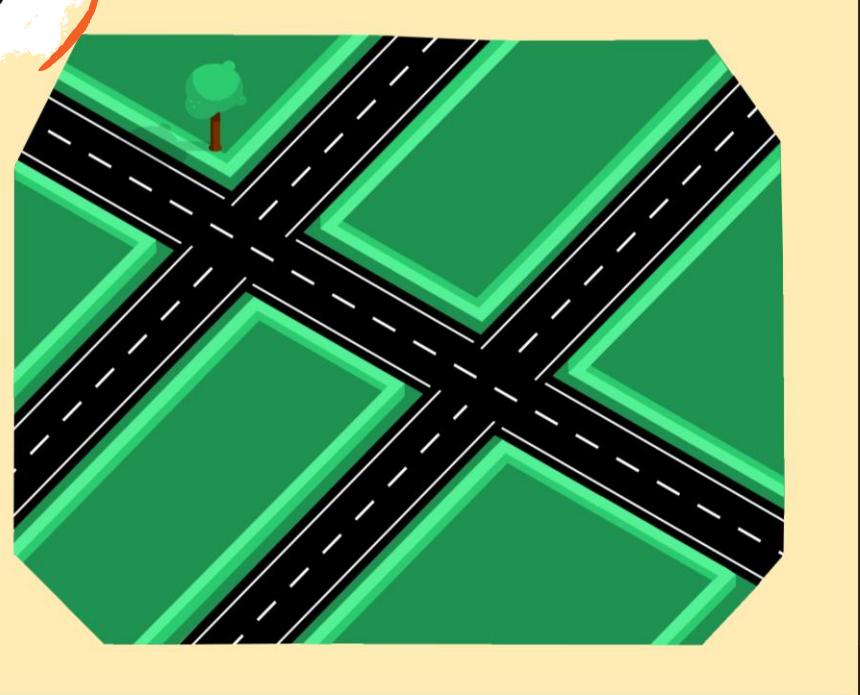


Language of Mathematics





I have drawn a tree.
I want to draw a
bench at an angle
corresponding to the
location of the tree.





**Corresponding Angles and
Its Properties**

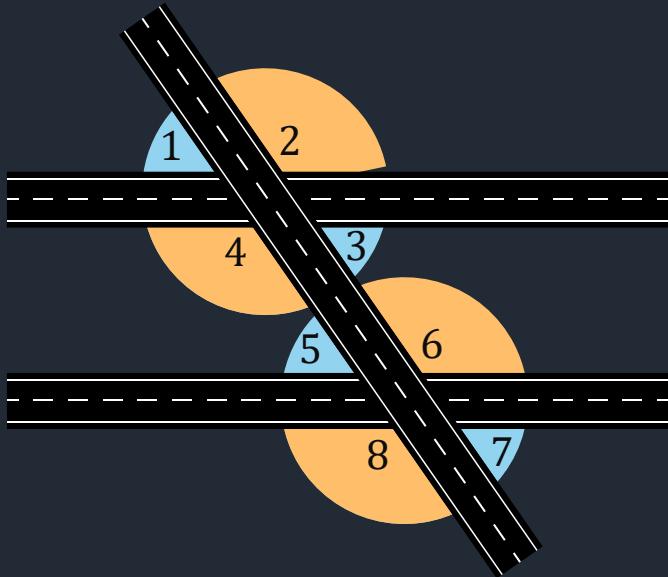
**Alternate Angles and
Its Properties**

**Interior Angles and
Its Properties**

**Construction of Parallel Lines
Using Set Squares**

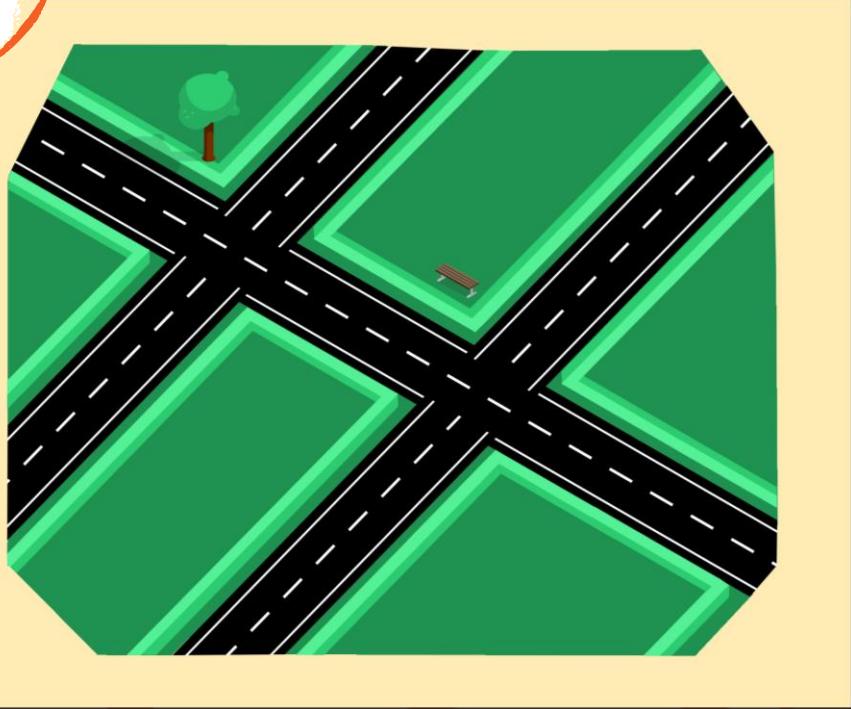


Corresponding Angles



Corresponding Angles

Yes, this is the
correct location of the
bench corresponding
to the tree.



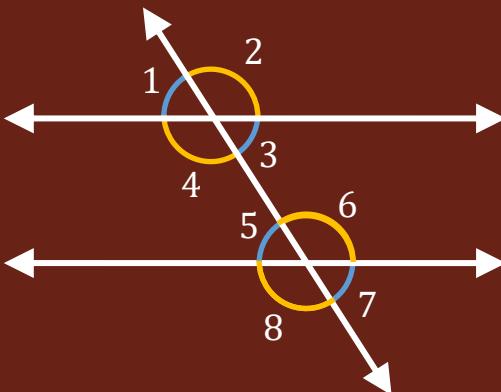
POLL QUESTION

%





In the given figure, identify the pair of corresponding angles.



A

$\angle 1$ and $\angle 4$

B

$\angle 2$ and $\angle 7$

C

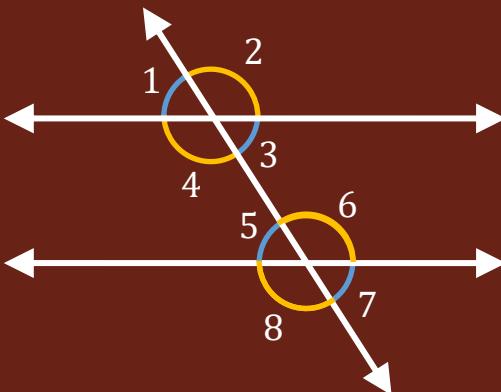
$\angle 3$ and $\angle 7$

D

$\angle 4$ and $\angle 5$



In the given figure, identify the pair of corresponding angles.



A

$\angle 1$ and $\angle 4$

B

$\angle 2$ and $\angle 7$

C

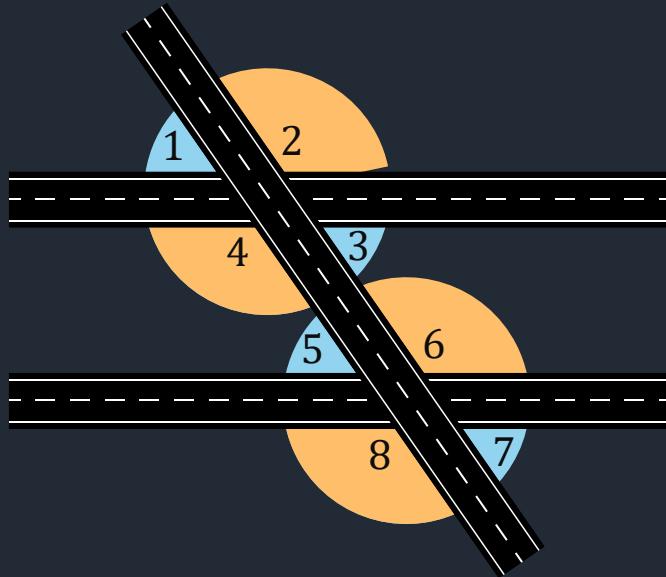
$\angle 3$ and $\angle 7$

D

$\angle 4$ and $\angle 5$



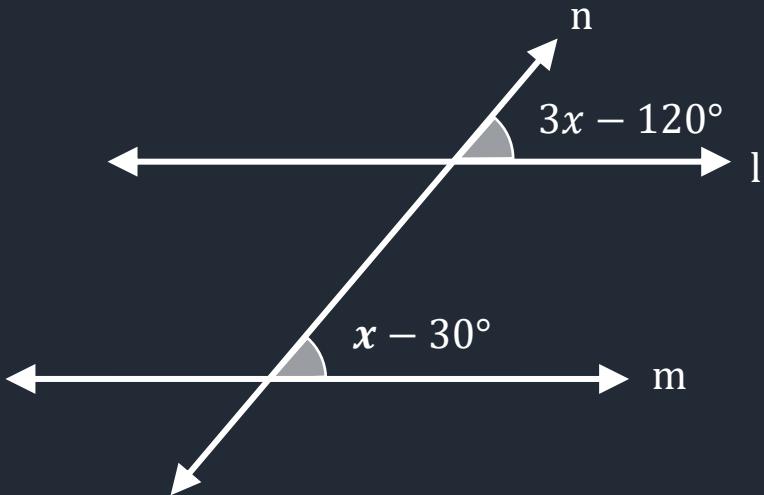
Properties of Corresponding Angles



$\angle 1$	=	\angle
$\angle 2$	=	\angle
$\angle 3$	=	\angle
$\angle 4$	=	\angle

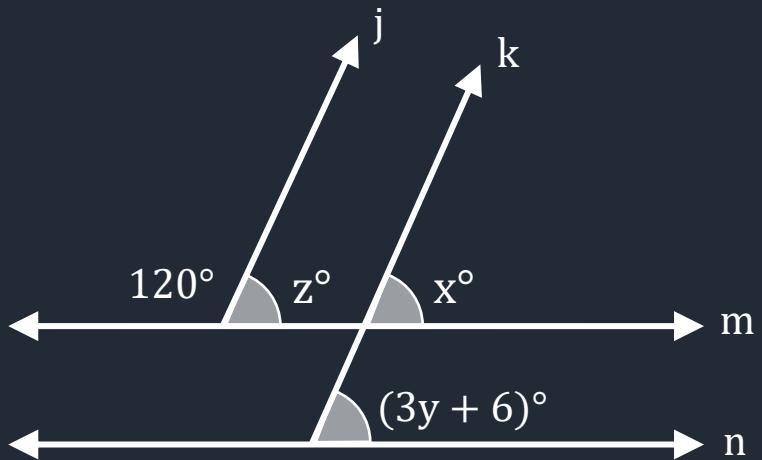
?

In the given figure, l is parallel to m and n is the transversal. Find the measure of $\angle x$.



?

If $j \parallel k$ and $m \parallel n$, calculate the values of x , y , and z .





Application of Corresponding Angles Property

GRADE	:	09 - MH
CHAPTER	:	Parallel Lines and Transversals
SUBTOPIC NAME	:	BHLP Mid – 20NSBMH08MAT02PC001
TIMINGS	:	00:38:22 – 00:40:34
START	:	If we have two pairs of parallel lines...
END	:	...and z is sixty degrees.
DURATION	:	00:02:12
LINK	:	https://d27yfew3jd3yhj.cloudfront.net/ mpkgr-production-20d913e1/qrptga/dash/h264.mpd

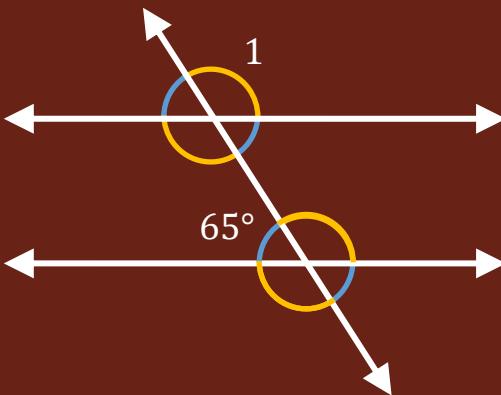
POLL QUESTION

%





In the given figure, find the measure of $\angle 1$.



A

65°

B

115°

C

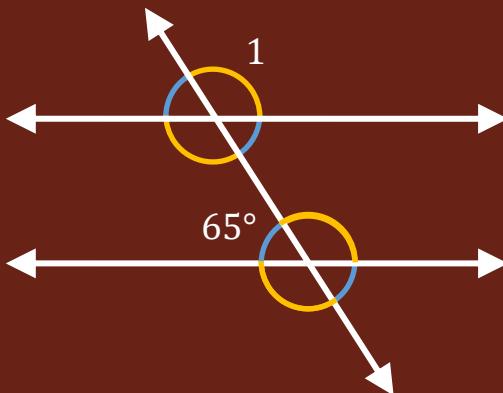
125°

D

155°



In the given figure, find the measure of $\angle 1$.



A

65°

B

115°

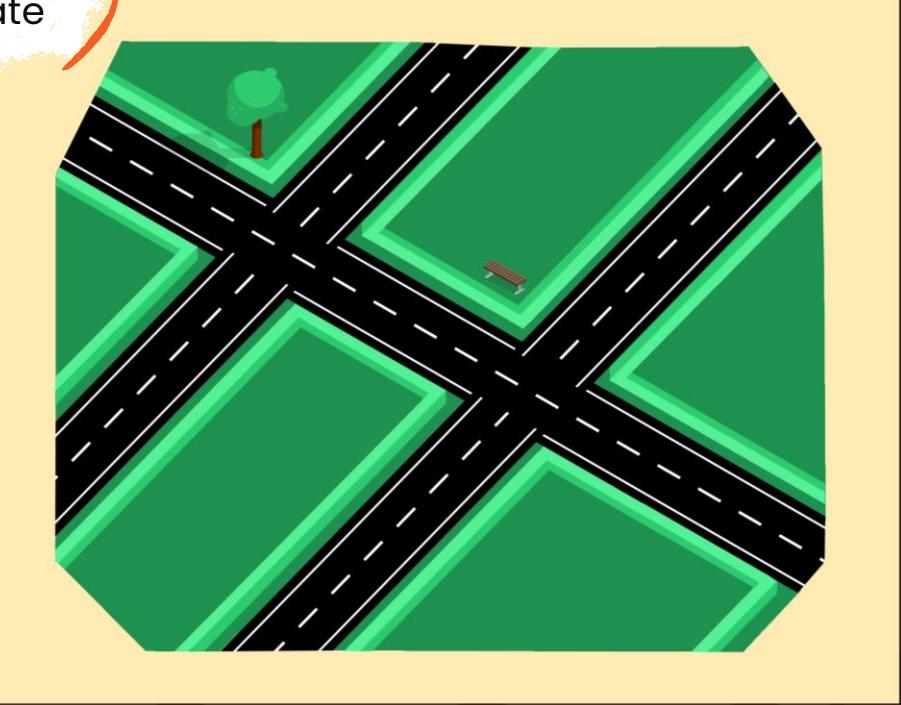
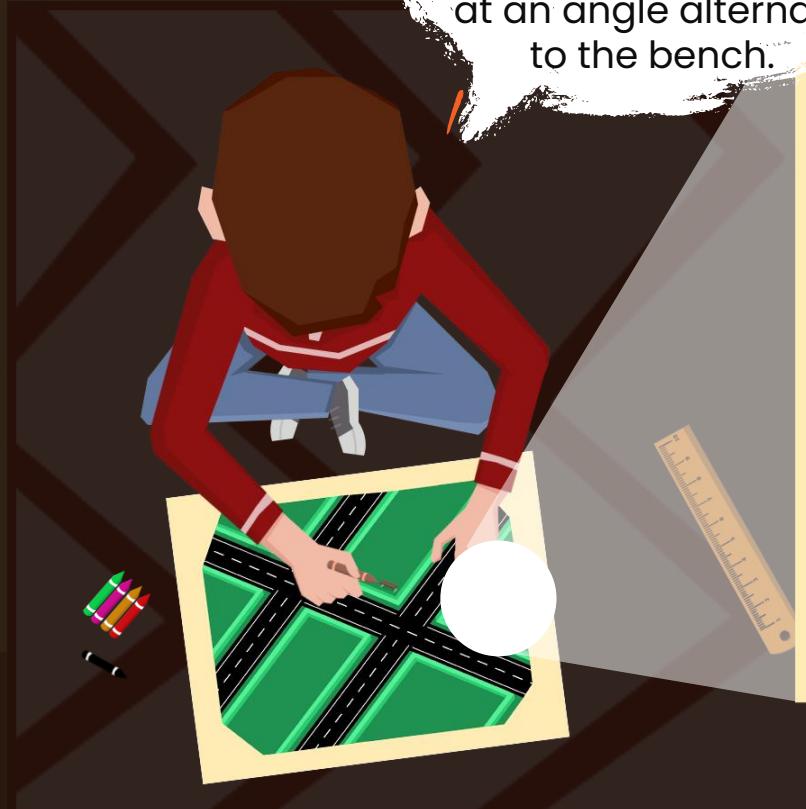
C

125°

D

155°

Let me put a see-saw
at an angle alternate
to the tree and a swing
at an angle alternate
to the bench.





**Corresponding Angles and
Its Properties**

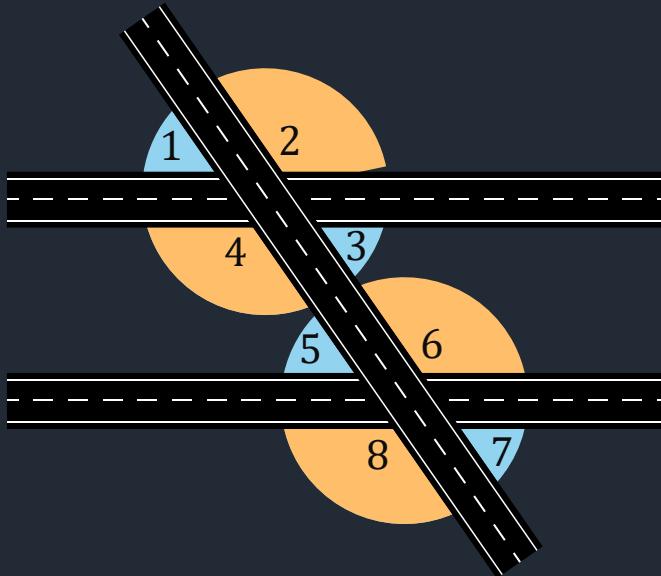
**Alternate Angles and
Its Properties**

**Interior Angles and
Its Properties**

**Construction of Parallel Lines
Using Set Squares**



Alternate Angles

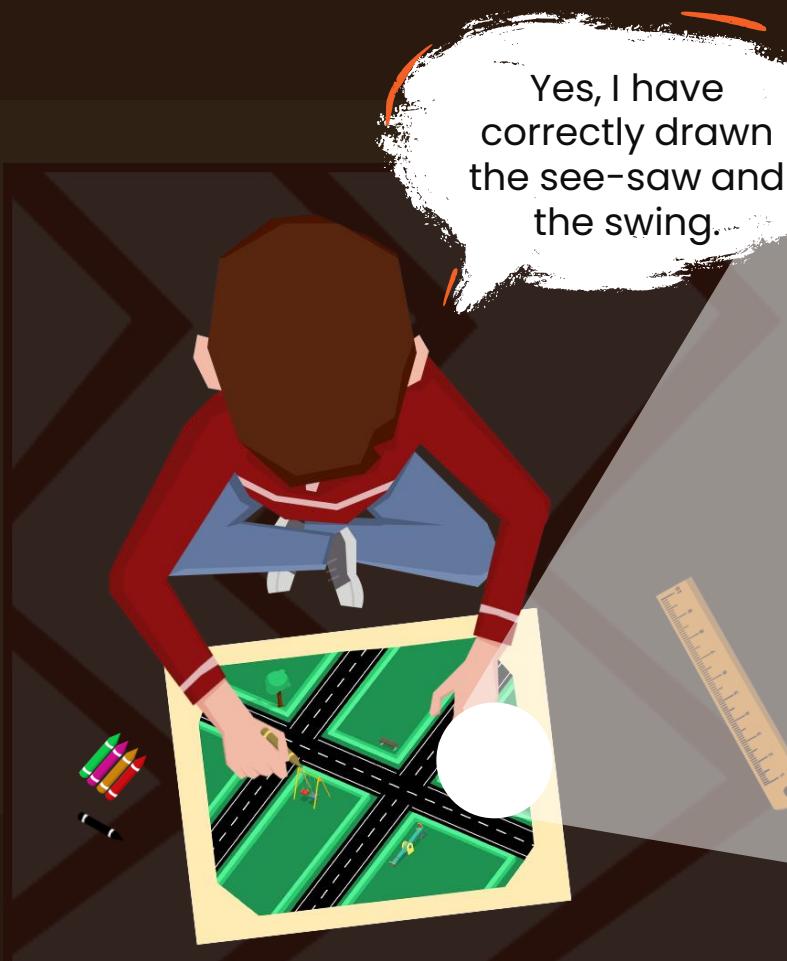


Alternate Exterior Angles

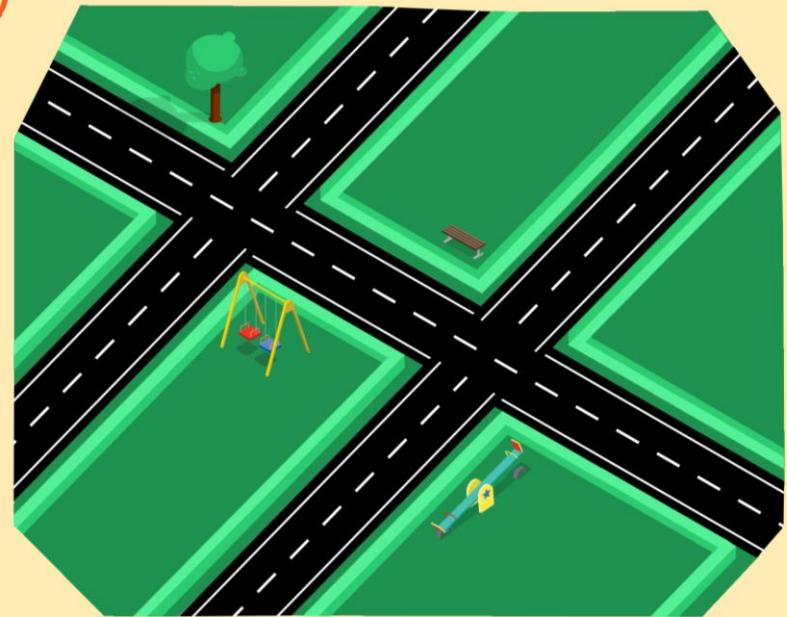


Alternate Interior Angles



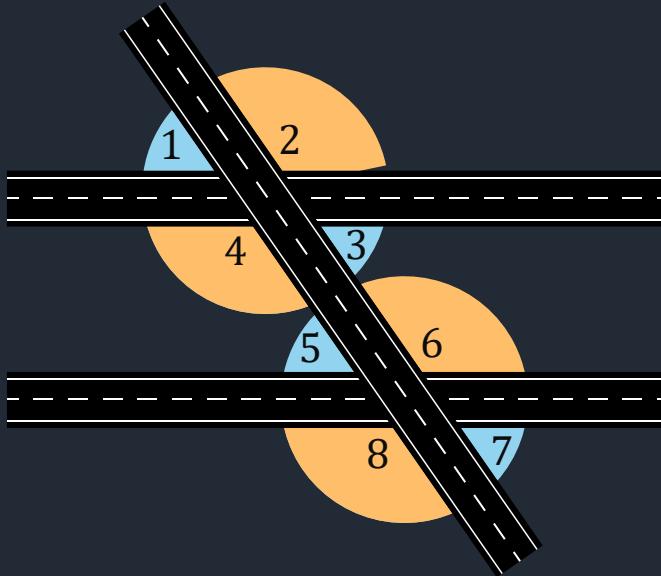


Yes, I have
correctly drawn
the see-saw and
the swing.





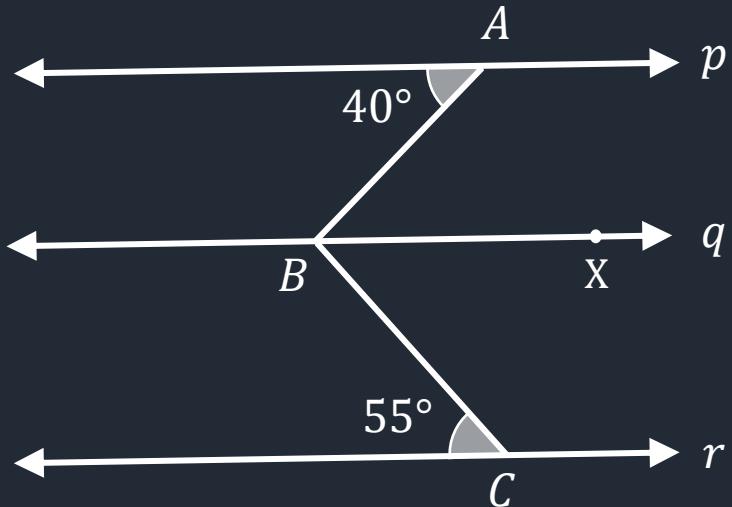
Properties of Alternate Angles



$\angle 1$	=	\angle
$\angle 2$	=	\angle
$\angle 3$	=	\angle
$\angle 4$	=	\angle

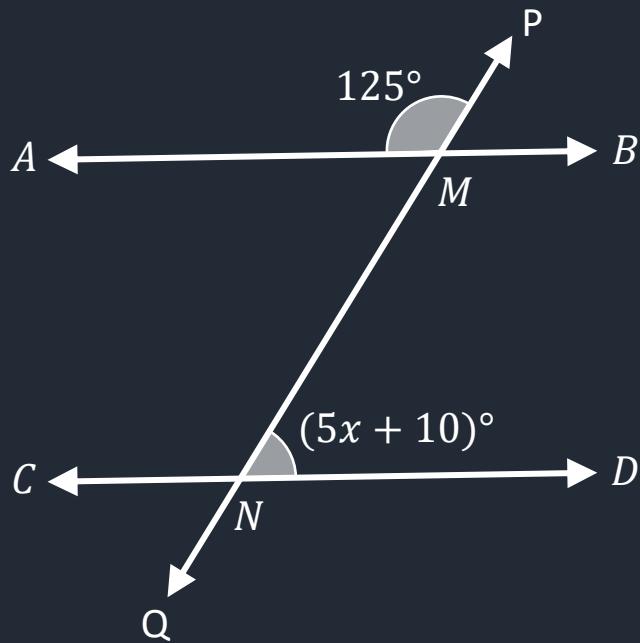
?

In the given figure, if $p \parallel q \parallel r$, find the measure of $\angle ABC$.



?

In the given figure, if $AB \parallel CD$, find the value of x .



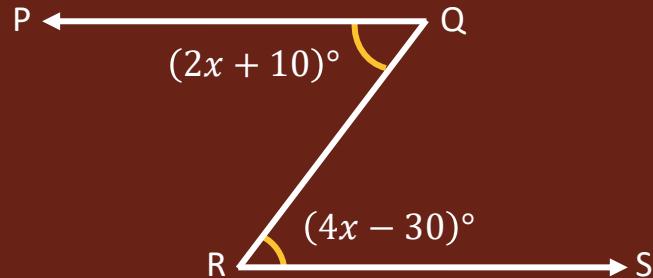
POLL QUESTION

%





If $PQ \parallel RS$, what is the measure of $\angle PQR$?



A

20°

B

35°

C

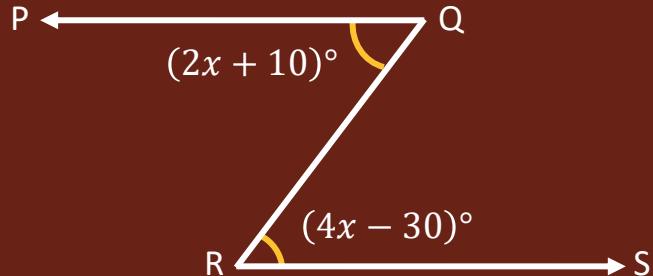
50°

D

75°



If $PQ \parallel RS$, what is the measure of $\angle PQR$?



A

20°

B

35°

C

50°

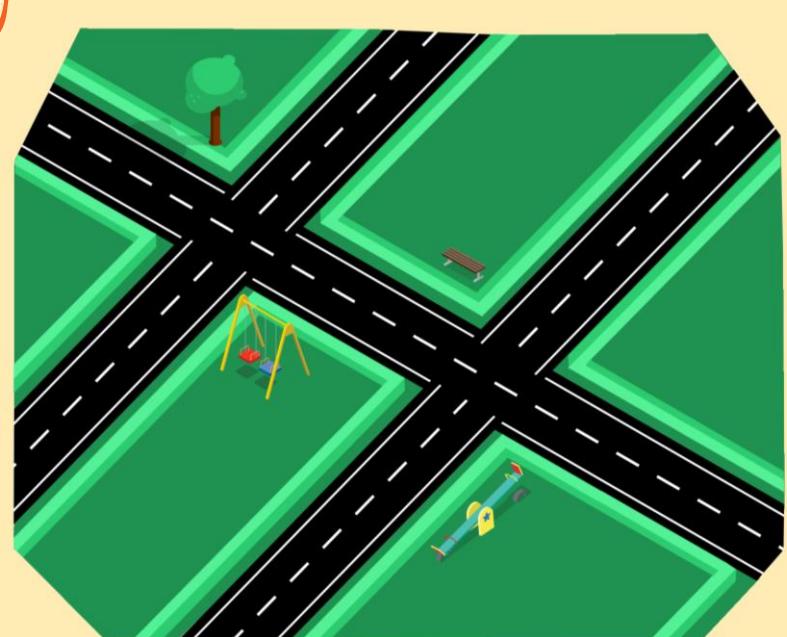
D

75°

Doubt Board



Finally, I want to draw a slide interior to the bench.





**Corresponding Angles and
Its Properties**

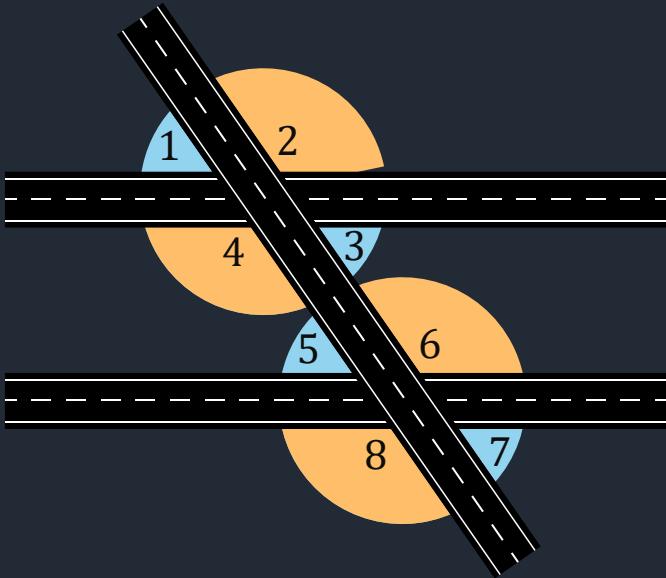
**Alternate Angles and
Its Properties**

**Interior Angles and
Its Properties**

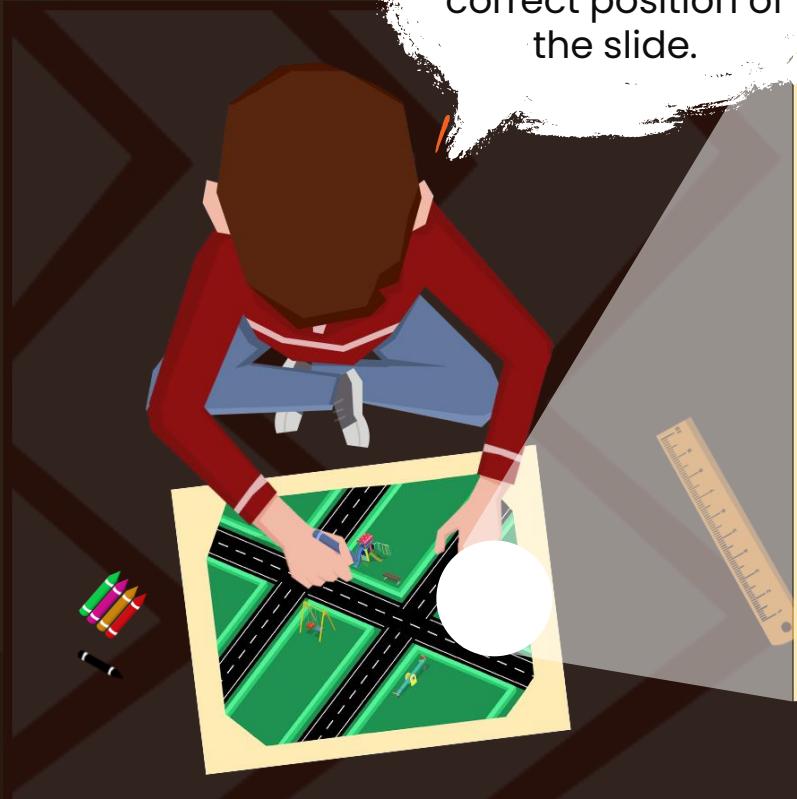
**Construction of Parallel Lines
Using Set Squares**



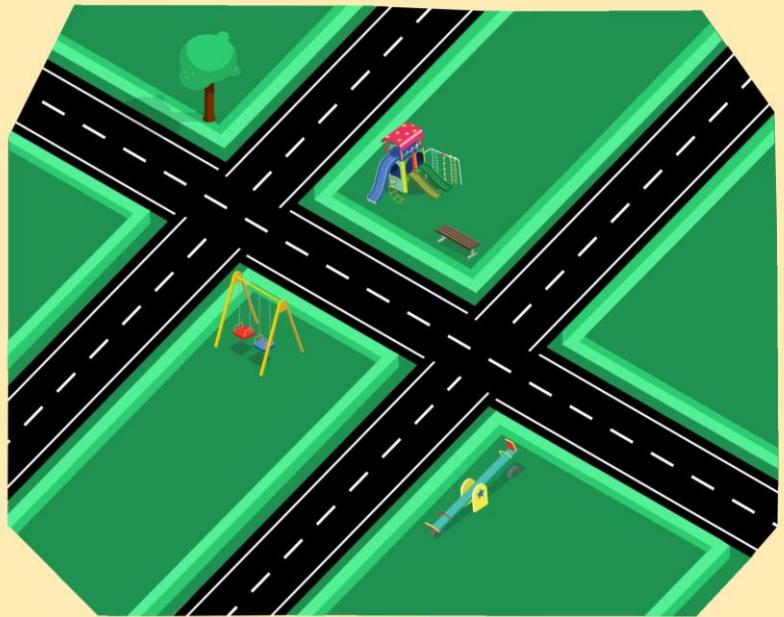
Interior Angles



Interior Angles

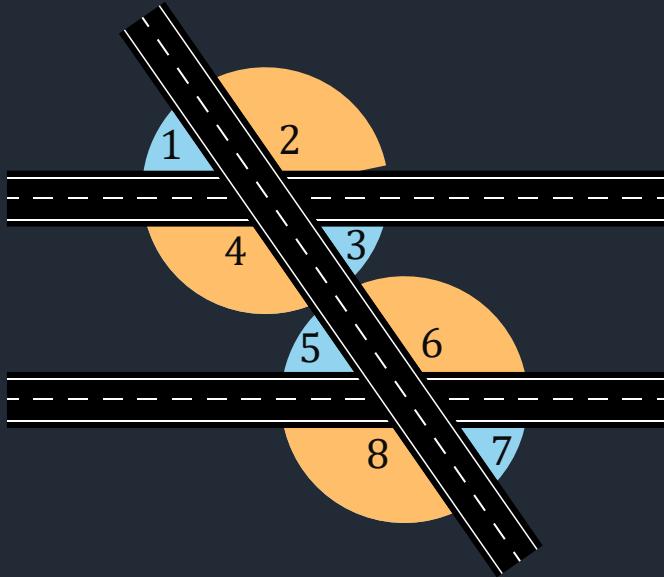


Yes, this is the
correct position of
the slide.





Properties of Interior Angles



$$\begin{array}{rcl} \angle 3 & + & \angle 6 \\ \angle & + & \angle \\ & & = \\ & & 180^\circ \\ & & \\ \angle 7 & + & \angle 8 \\ \angle & + & \angle \\ & & = \\ & & 180^\circ \end{array}$$

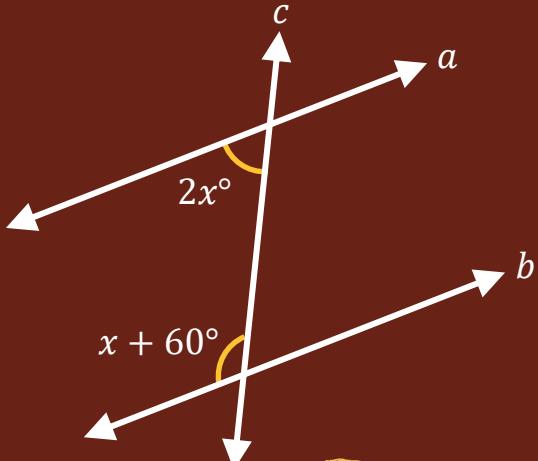
POLL QUESTION

%





Assume line a and line b are parallel lines and line c is a transversal. Find the value of x .



A

20°

B

40°

C

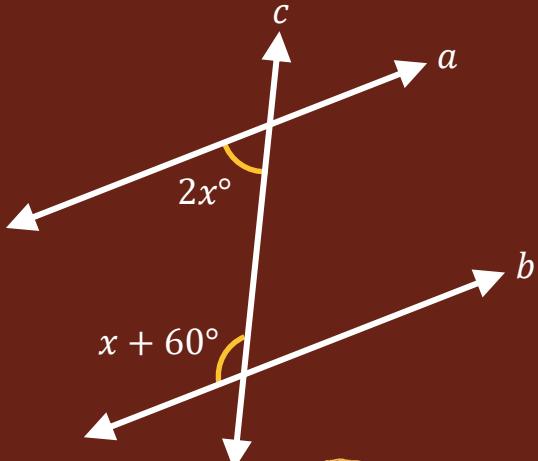
80°

D

100°



Assume line a and line b are parallel lines and line c is a transversal. Find the value of x .



A

20°

B

40°

C

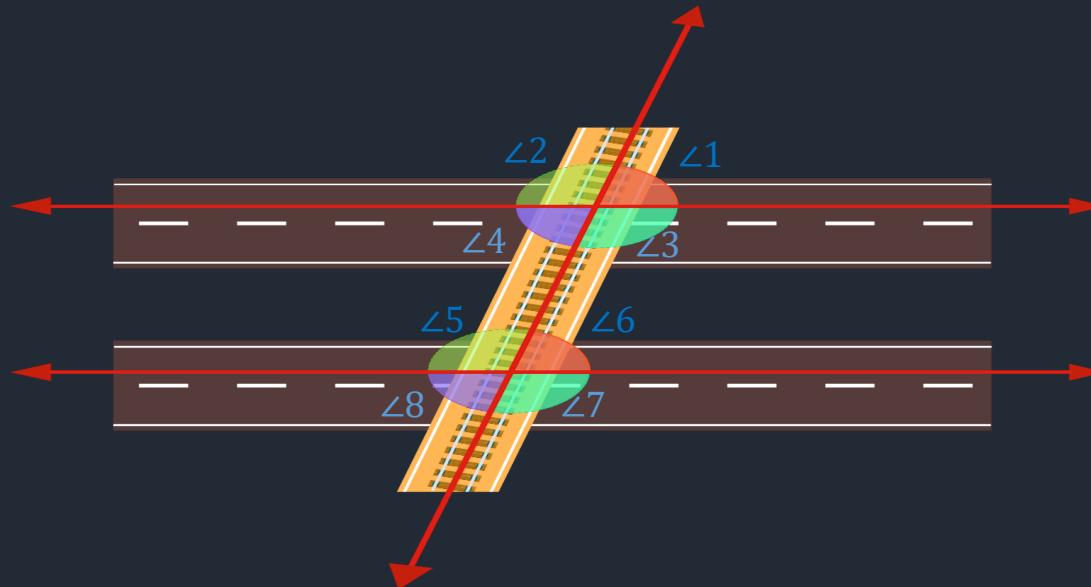
80°

D

100°

?

If $\angle 3 = 110^\circ$, then find the values of the remaining angles.





Video solution to the previous question

GRADE : 09 - MH

CHAPTER : Parallel Lines and Transversals

SUBTOPIC NAME : BHLP Mid – 20NSBMH08MAT02PC001

TIMINGS : 00:42:50 – 00:45:21

START : If I want to draw it here...

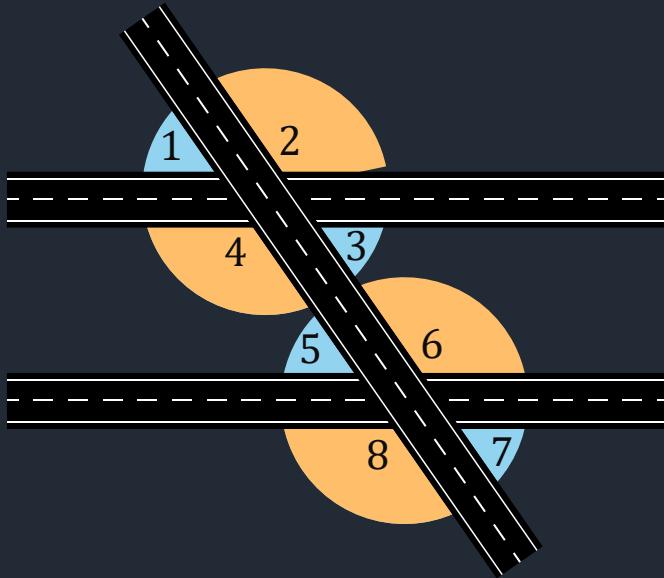
END : ...either 110 or 70 degrees.

DURATION : 00:02:31

LINK : [https://d27yfew3jd3yhj.cloudfront.net/
mpkgr-production-20d913e1/qrptga/dash/h264.mpd](https://d27yfew3jd3yhj.cloudfront.net/mpkgr-production-20d913e1/qrptga/dash/h264.mpd)

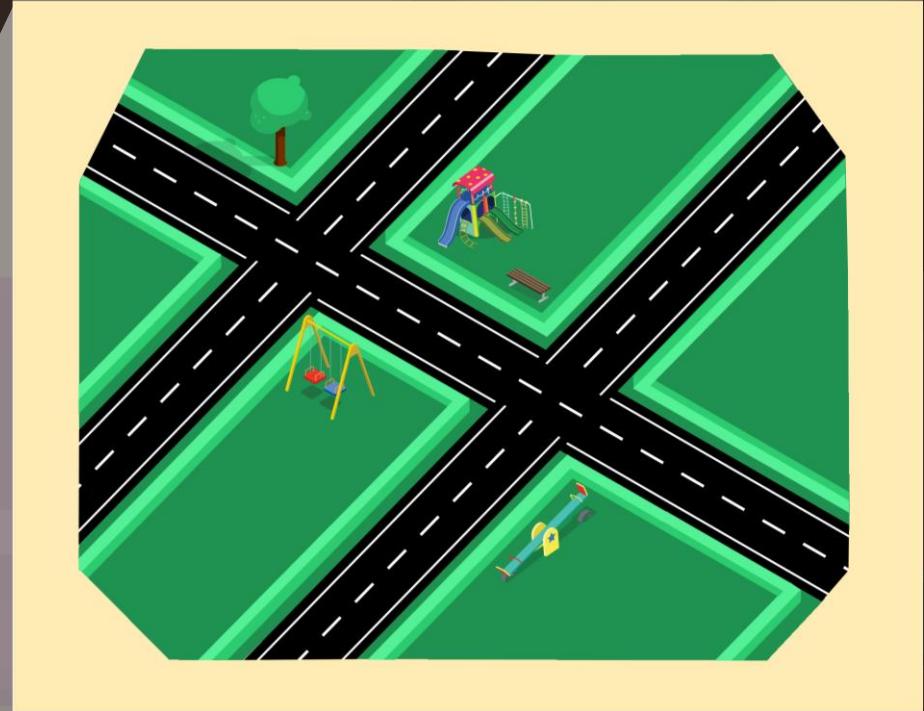
?

If $p \parallel q$ and $\angle 2 + \angle 4 = 230^\circ$, find the values of all angles.





Let me hang my art on the wall. For that, I want to draw two parallel lines with a distance of 20 centimetres between them





**Corresponding Angles and
Its Properties**

**Alternate Angles and
Its Properties**

**Interior Angles and
Its Properties**

**Construction of Parallel Lines
Using Set Squares**



Construction of Parallel Lines

Step 1 Draw line l .

Step 2 Take a point A outside the line l .

Step 3 Place two set squares touching each other such that one of the edges of the two set squares is close to point A.

Step 4 Draw a horizontal line m along the edge of the second set square.



Construction of Parallel Lines – Method 2

GRADE	:	09 – MH
CHAPTER	:	Parallel Lines and Transversals
SUBTOPIC NAME	:	Parallel Lines and Its Construction
TIMINGS	:	00:10:29 – 00:12:17
START	:	So if we just take the ruler...
END	:	...constructed two parallel lines PQ and MN.
DURATION	:	00:01:48
LINK	:	



Construct two parallel lines with a distance of 7.5 cm between them.

Step 1

Draw line l and mark two points A and B on the line l .

Step 2

Draw perpendiculars to line l from points A and B.

Step 3

On the perpendicular lines, mark points C and D at a distance of 7.5 cm.

Step 4

Draw a horizontal line m passing through C and D, which is parallel to line l .

POLL QUESTION

%





Alex is drawing two parallel lines at a distance of 20 cm between them. He has drawn a horizontal line p . How many perpendicular lines should he draw to the line p ?

A

0

B

1

C

2



Alex is drawing two parallel lines at a distance of 20 cm between them. He has drawn a horizontal line p . How many perpendicular lines should he draw to the line p ?

A

0

B

1

C

2

Doubt Board



Summary



Corresponding
Angles and
Its Properties



Alternate
Angles and
Its Properties



Interior Angles
and Its
Properties



Construction of
Parallel Lines
Using Set
Squares

