

Tessellations

Can copies of the shape fit round a point with no gap? Circle.

Each angle

Copies round a point

Does it tessellate?

1.



triangle
60°

$$60^\circ \times 6 = \underline{360}^\circ$$

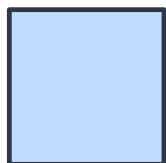
$$60^\circ \times 7 = \underline{420}^\circ$$

Example

yes

no

2.



square
90°

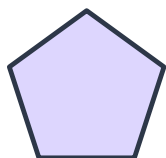
$$90^\circ \times 4 = \underline{\quad}^\circ$$

$$90^\circ \times 5 = \underline{\quad}^\circ$$

yes

no

3.



pentagon
108°

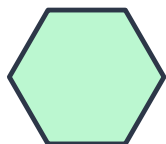
$$108^\circ \times 3 = \underline{\quad}^\circ$$

$$108^\circ \times 4 = \underline{\quad}^\circ$$

yes

no

4.



hexagon
120°

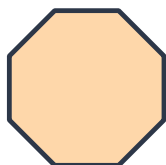
$$120^\circ \times 3 = \underline{\quad}^\circ$$

$$120^\circ \times 4 = \underline{\quad}^\circ$$

yes

no

5.



octagon
135°

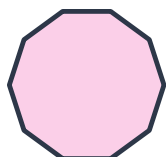
$$135^\circ \times 2 = \underline{\quad}^\circ$$

$$135^\circ \times 3 = \underline{\quad}^\circ$$

yes

no

6.



decagon
144°

$$144^\circ \times 2 = \underline{\quad}^\circ$$

$$144^\circ \times 3 = \underline{\quad}^\circ$$

yes

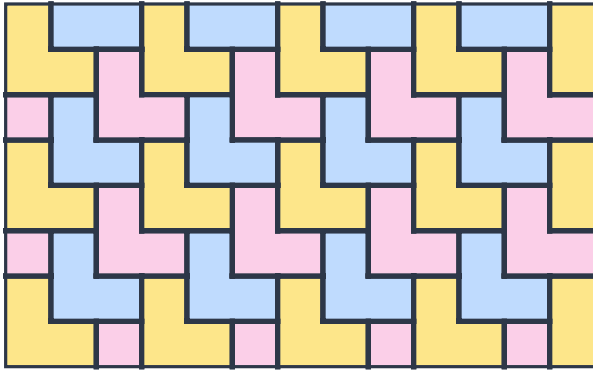
no

Tessellations

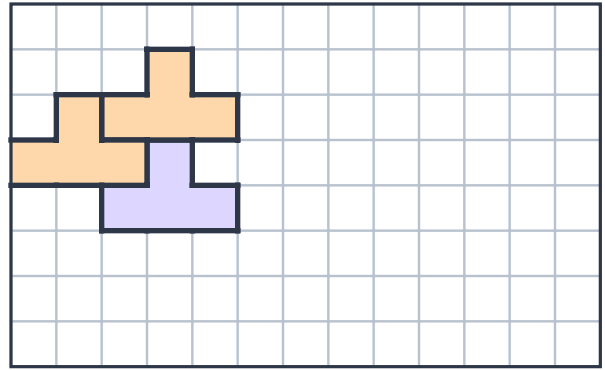
Continue each tessellation to cover the grid. Colour it in.

1. L shapes

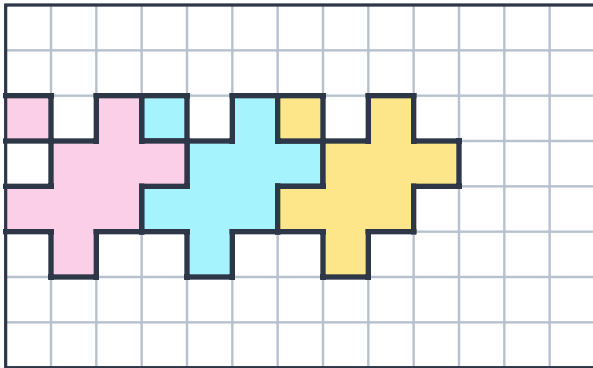
Example



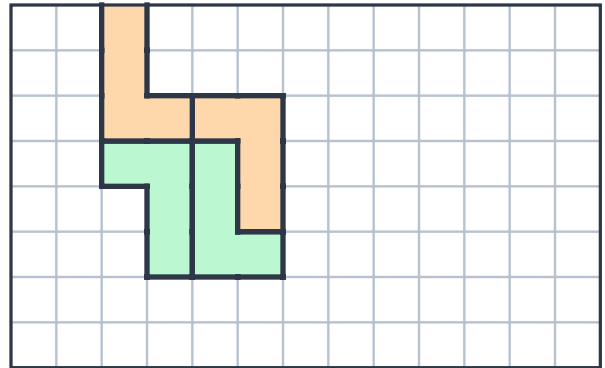
2. T shapes



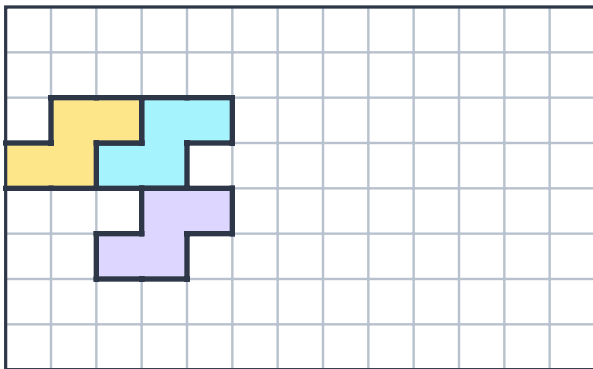
3. Nibbled squares



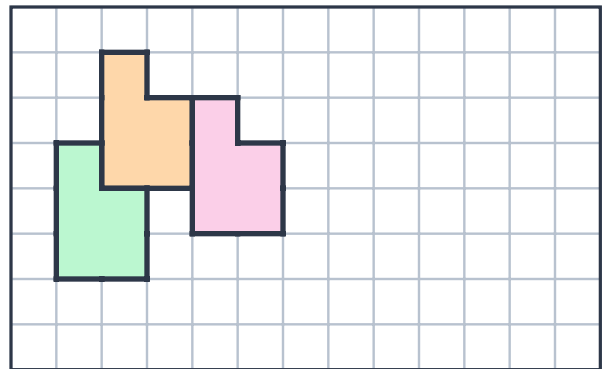
4. L shapes and half turns



5. Zigzags



6. P shapes

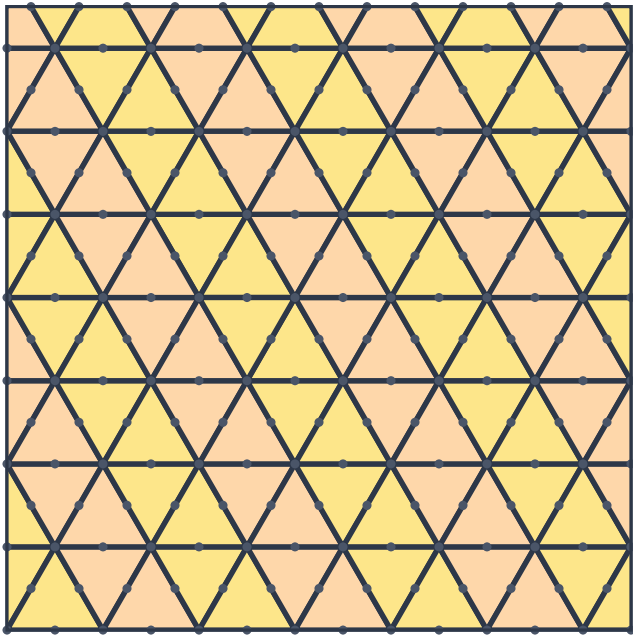


Tessellations

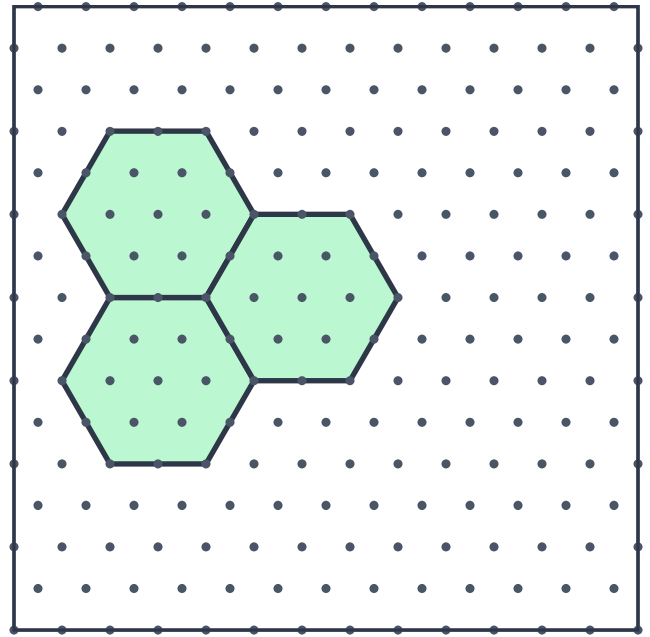
Continue each tessellation to cover the dot paper. Colour it in.

1. Triangles

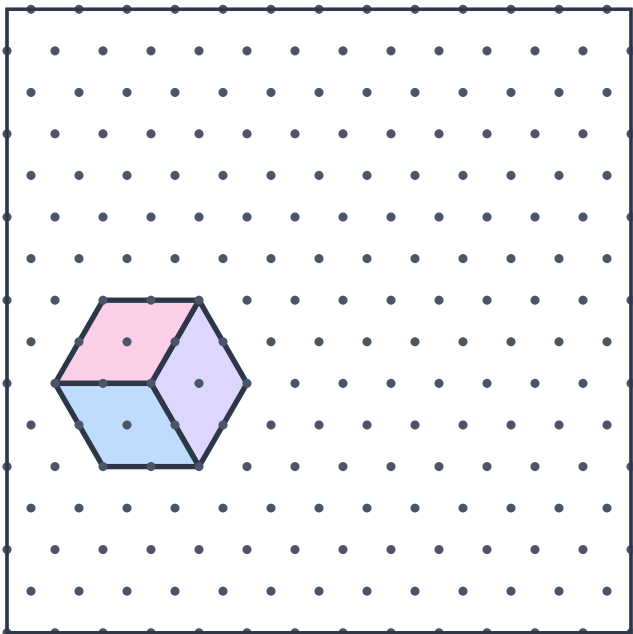
Example



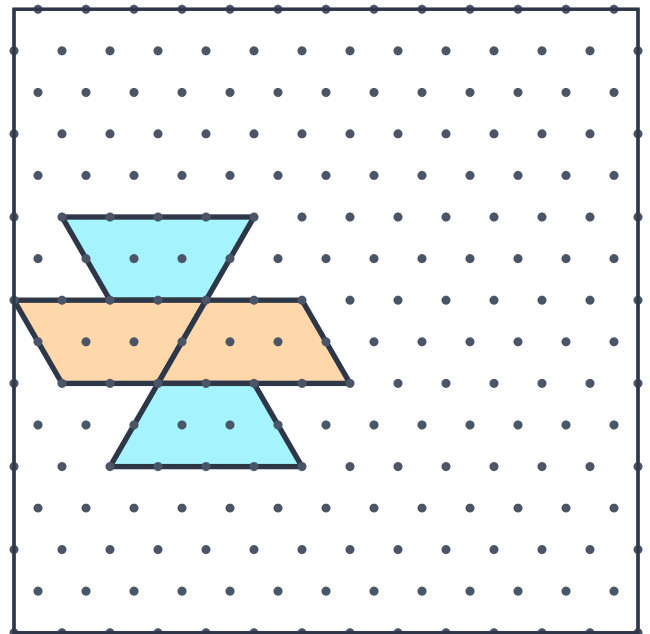
2. Hexagons



3. Rhombuses



4. Trapeziums

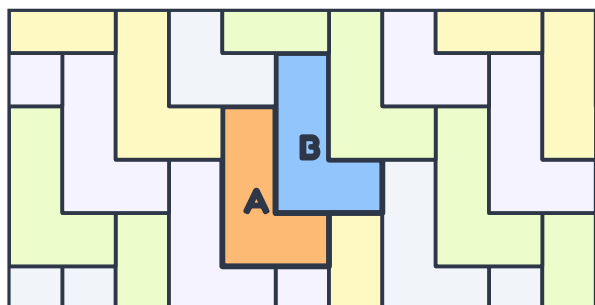


Tessellations

Which move takes tile A to tile B? Circle it.

1.

Example

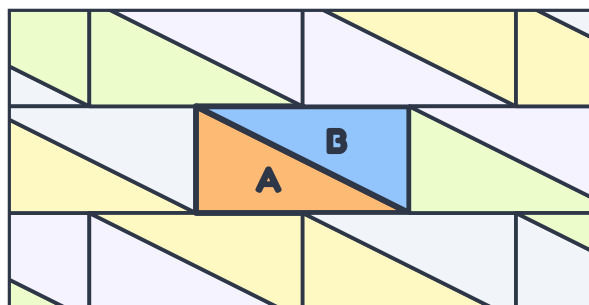


translate
(slide)

reflect
(flip)

rotate
(turn)

2.

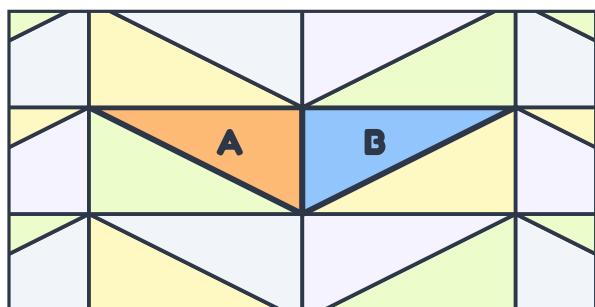


translate
(slide)

reflect
(flip)

rotate
(turn)

3.

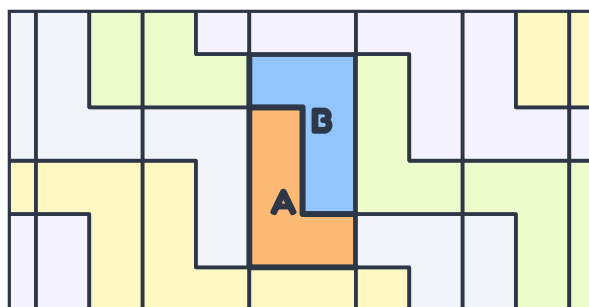


translate
(slide)

reflect
(flip)

rotate
(turn)

4.

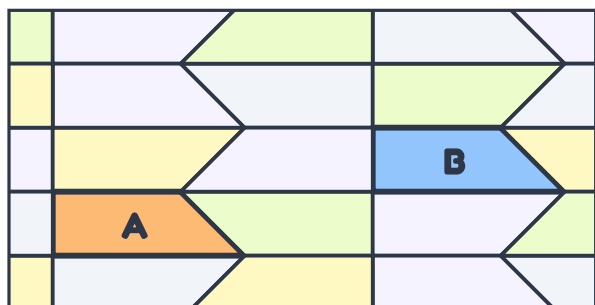


translate
(slide)

reflect
(flip)

rotate
(turn)

5.

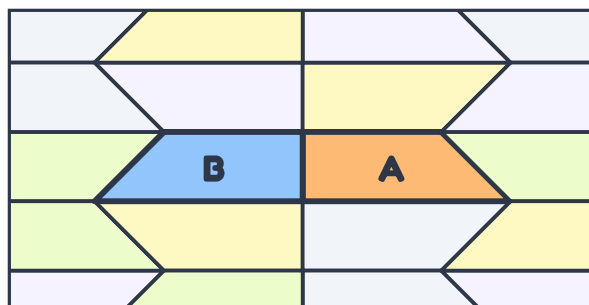


translate
(slide)

reflect
(flip)

rotate
(turn)

6.



translate
(slide)

reflect
(flip)

rotate
(turn)

Tessellations

Find the angle of the gap. Which regular shape fits it, if any?



triangle
 60°



square
 90°



pentagon
 108°



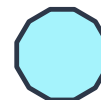
hexagon
 120°



octagon
 135°

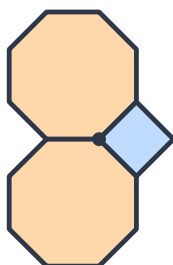


decagon
 144°



dodecagon
 150°

1.



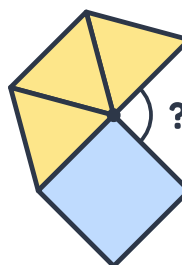
Example

Which regular
shape fits?

square

$$135^\circ + 135^\circ + \underline{90}^\circ = 360^\circ$$

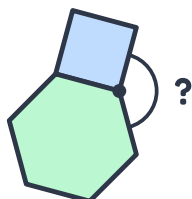
2.



Which regular
shape fits?

$$60^\circ + 60^\circ + 60^\circ + 90^\circ + \underline{\quad}^\circ = 360^\circ$$

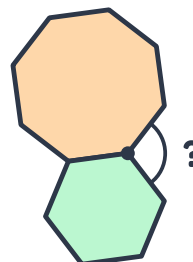
3.



Which regular
shape fits?

$$90^\circ + 120^\circ + \underline{\quad}^\circ = 360^\circ$$

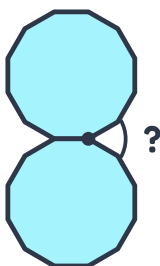
4.



Which regular
shape fits?

$$135^\circ + 120^\circ + \underline{\quad}^\circ = 360^\circ$$

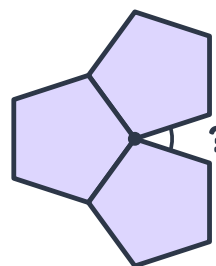
5.



Which regular
shape fits?

$$150^\circ + 150^\circ + \underline{\quad}^\circ = 360^\circ$$

6.



Which regular
shape fits?

$$108^\circ + 108^\circ + 108^\circ + \underline{\quad}^\circ = 360^\circ$$

Tessellations

Can copies of the shape fit round a point with no gap? Circle.

Each angle

Copies round a point

Does it tessellate?

1.



triangle
60°

$$60^\circ \times 6 = \underline{360}^\circ$$

$$60^\circ \times 7 = \underline{420}^\circ$$

Example

yes

no

2.



square
90°

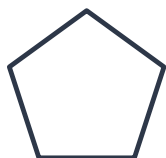
$$90^\circ \times 4 = \underline{\quad}^\circ$$

$$90^\circ \times 5 = \underline{\quad}^\circ$$

yes

no

3.



pentagon
108°

$$108^\circ \times 3 = \underline{\quad}^\circ$$

$$108^\circ \times 4 = \underline{\quad}^\circ$$

yes

no

4.



hexagon
120°

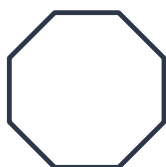
$$120^\circ \times 3 = \underline{\quad}^\circ$$

$$120^\circ \times 4 = \underline{\quad}^\circ$$

yes

no

5.



octagon
135°

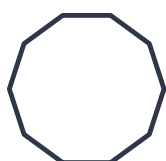
$$135^\circ \times 2 = \underline{\quad}^\circ$$

$$135^\circ \times 3 = \underline{\quad}^\circ$$

yes

no

6.



decagon
144°

$$144^\circ \times 2 = \underline{\quad}^\circ$$

$$144^\circ \times 3 = \underline{\quad}^\circ$$

yes

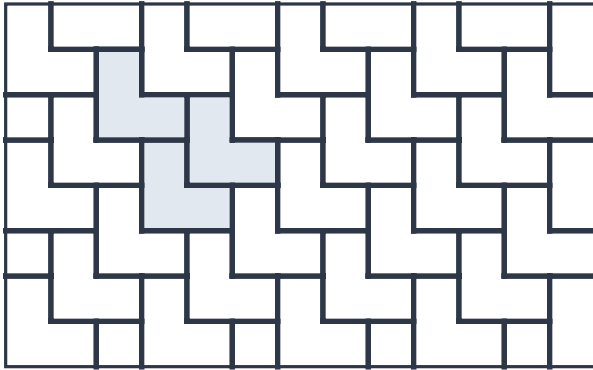
no

Tessellations

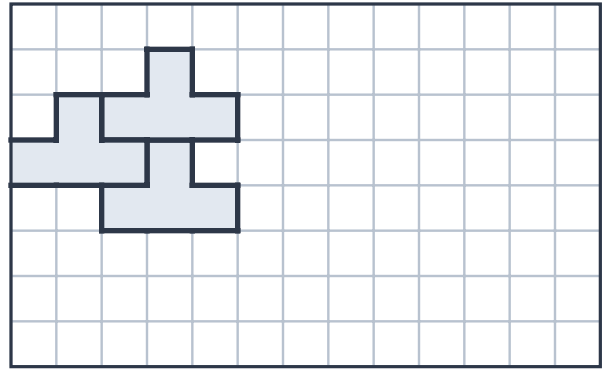
Continue each tessellation to cover the grid. Colour it in.

1. L shapes

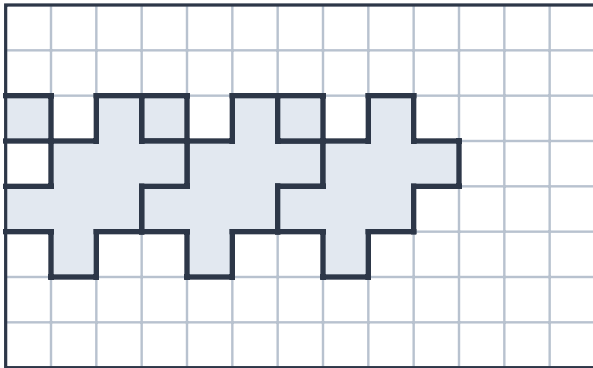
Example



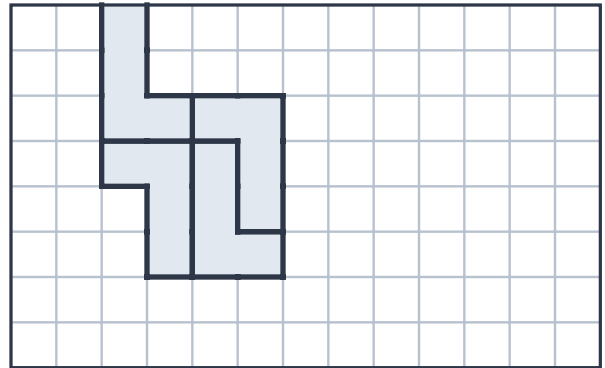
2. T shapes



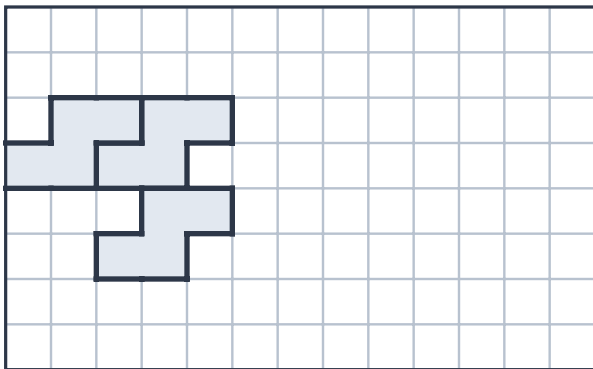
3. Nibbled squares



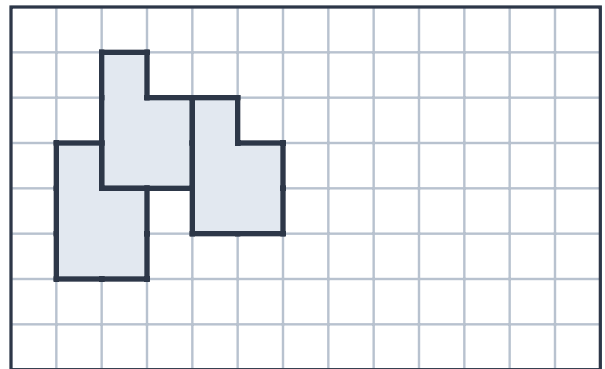
4. L shapes and half turns



5. Zigzags



6. P shapes

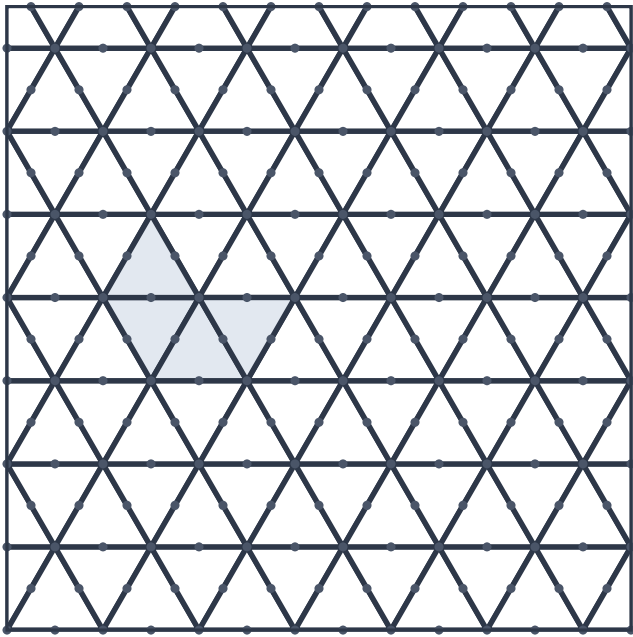


Tessellations

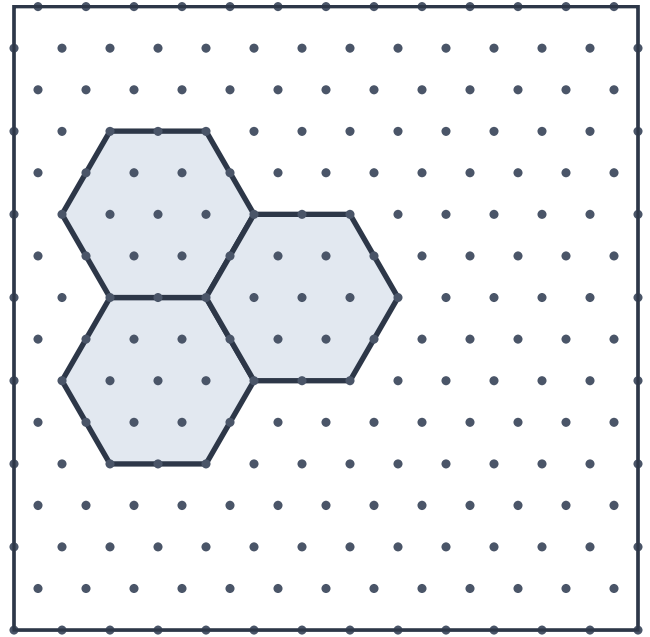
Continue each tessellation to cover the dot paper. Colour it in.

1. Triangles

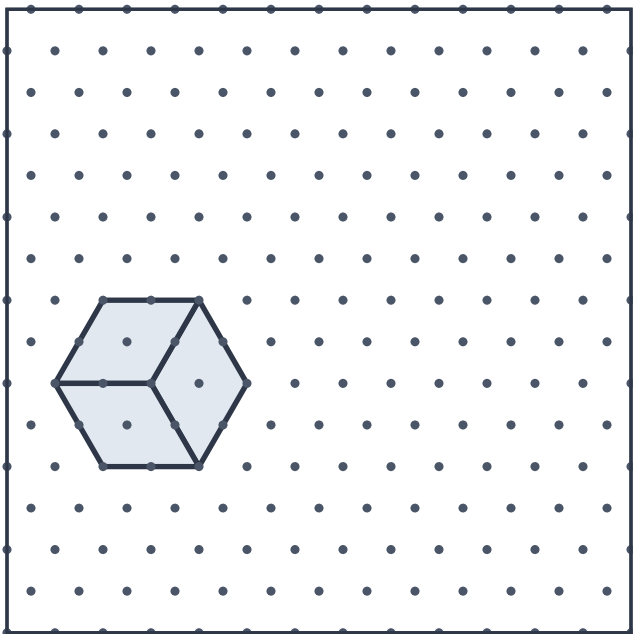
Example



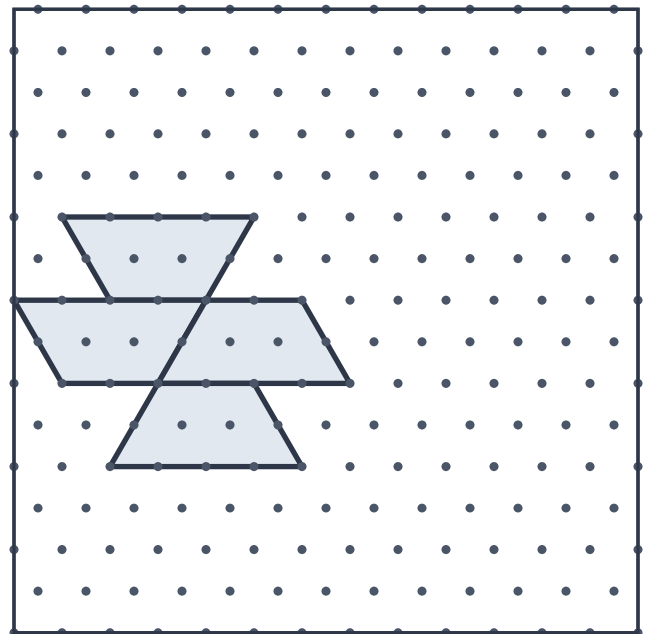
2. Hexagons



3. Rhombuses



4. Trapeziums

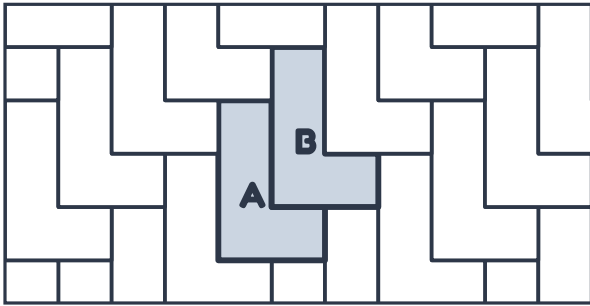


Tessellations

Which move takes tile A to tile B? Circle it.

1.

Example

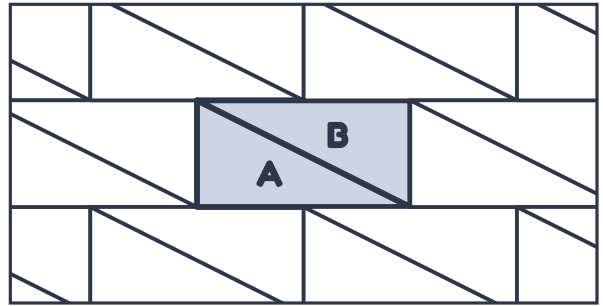


translate
(slide)

reflect
(flip)

rotate
(turn)

2.

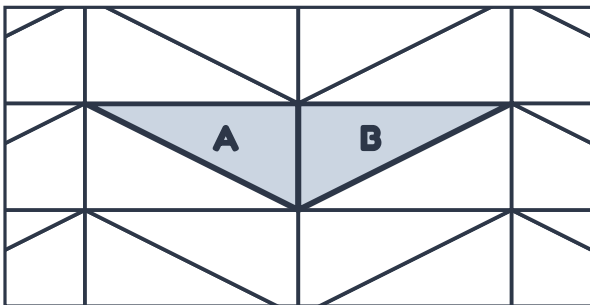


translate
(slide)

reflect
(flip)

rotate
(turn)

3.

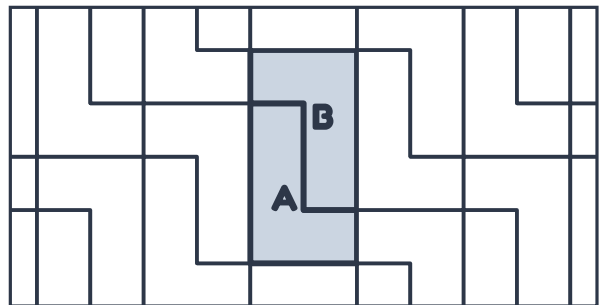


translate
(slide)

reflect
(flip)

rotate
(turn)

4.

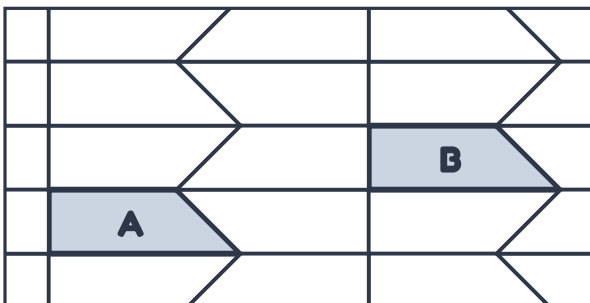


translate
(slide)

reflect
(flip)

rotate
(turn)

5.

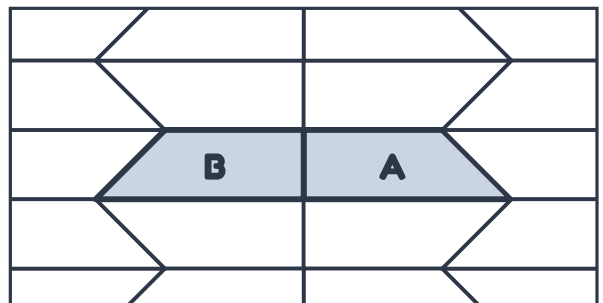


translate
(slide)

reflect
(flip)

rotate
(turn)

6.



translate
(slide)

reflect
(flip)

rotate
(turn)

Tessellations

Find the angle of the gap. Which regular shape fits it, if any?



triangle
60°



square
90°



pentagon
108°



hexagon
120°



octagon
135°



decagon
144°



dodecagon
150°

1.



Example

Which regular
shape fits?

square

$$135^\circ + 135^\circ + \underline{90}^\circ = 360^\circ$$

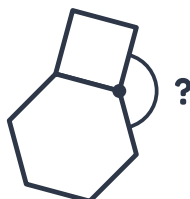
2.



Which regular
shape fits?

$$60^\circ + 60^\circ + 60^\circ + 90^\circ + \underline{\quad}^\circ = 360^\circ$$

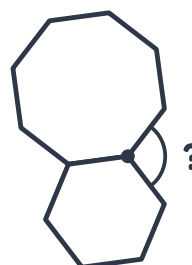
3.



Which regular
shape fits?

$$90^\circ + 120^\circ + \underline{\quad}^\circ = 360^\circ$$

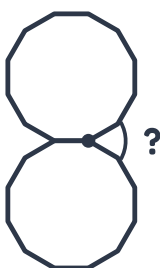
4.



Which regular
shape fits?

$$135^\circ + 120^\circ + \underline{\quad}^\circ = 360^\circ$$

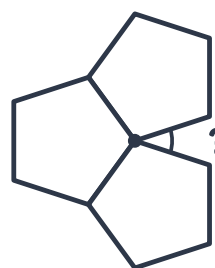
5.



Which regular
shape fits?

$$150^\circ + 150^\circ + \underline{\quad}^\circ = 360^\circ$$

6.

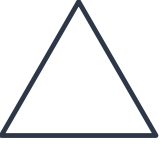
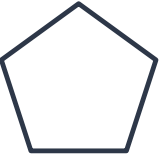
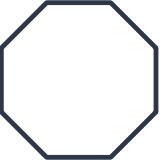
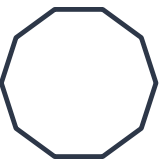


Which regular
shape fits?

$$108^\circ + 108^\circ + 108^\circ + \underline{\quad}^\circ = 360^\circ$$

Tessellations

Can copies of the shape fit round a point with no gap? Circle.

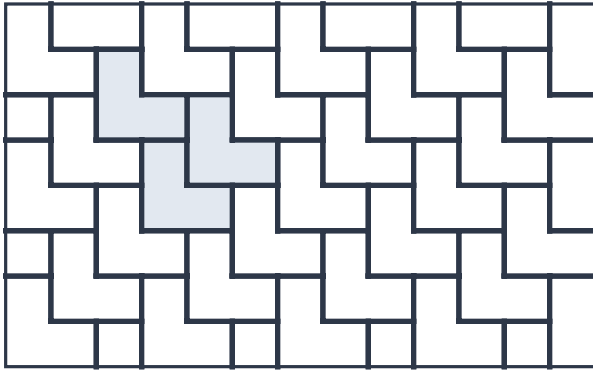
	Each angle	Copies round a point	Does it tessellate?	
1.	 triangle 60°	$60^\circ \times 6 = \underline{360}^\circ$ $60^\circ \times 7 = \underline{420}^\circ$	Example yes no	
2.	 square 90°	$90^\circ \times 4 = \underline{360}^\circ$ $90^\circ \times 5 = \underline{450}^\circ$	yes no	
3.	 pentagon 108°	$108^\circ \times 3 = \underline{324}^\circ$ $108^\circ \times 4 = \underline{432}^\circ$	yes no	
4.	 hexagon 120°	$120^\circ \times 3 = \underline{360}^\circ$ $120^\circ \times 4 = \underline{480}^\circ$	yes no	
5.	 octagon 135°	$135^\circ \times 2 = \underline{270}^\circ$ $135^\circ \times 3 = \underline{405}^\circ$	yes no	
6.	 decagon 144°	$144^\circ \times 2 = \underline{288}^\circ$ $144^\circ \times 3 = \underline{432}^\circ$	yes no	

Tessellations

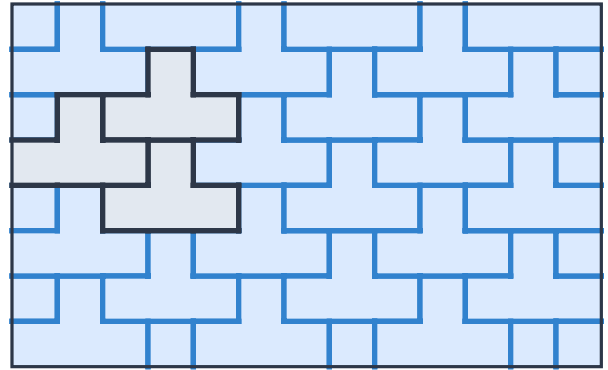
Continue each tessellation to cover the grid. Colour it in.

1. L shapes

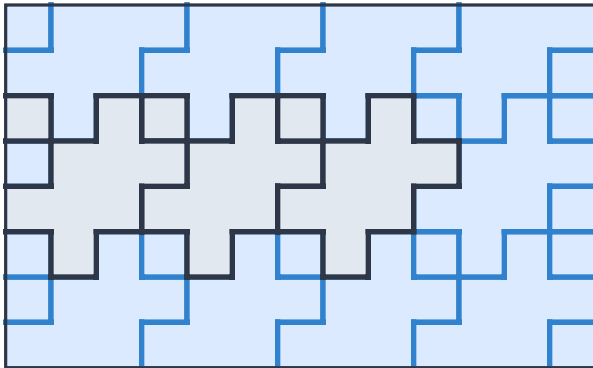
Example



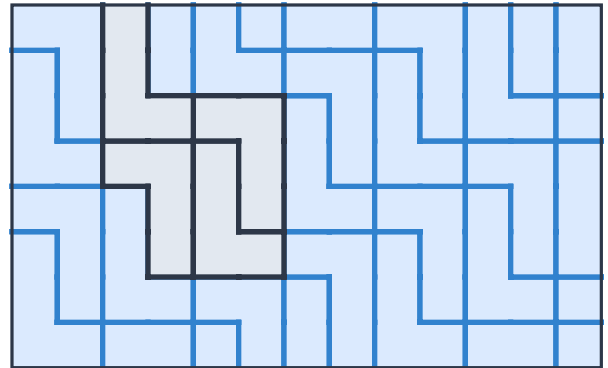
2. T shapes



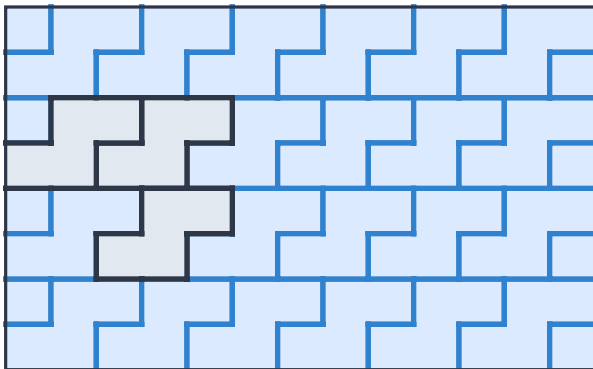
3. Nibbled squares



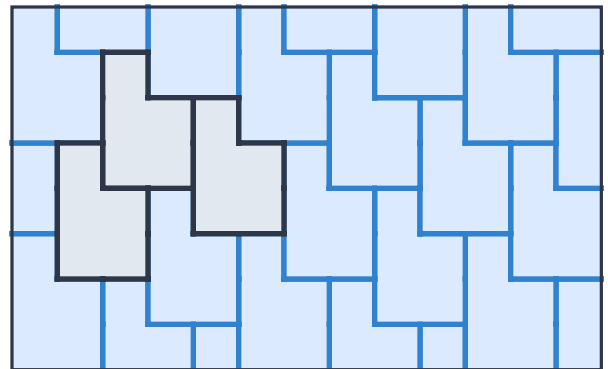
4. L shapes and half turns



5. Zigzags



6. P shapes

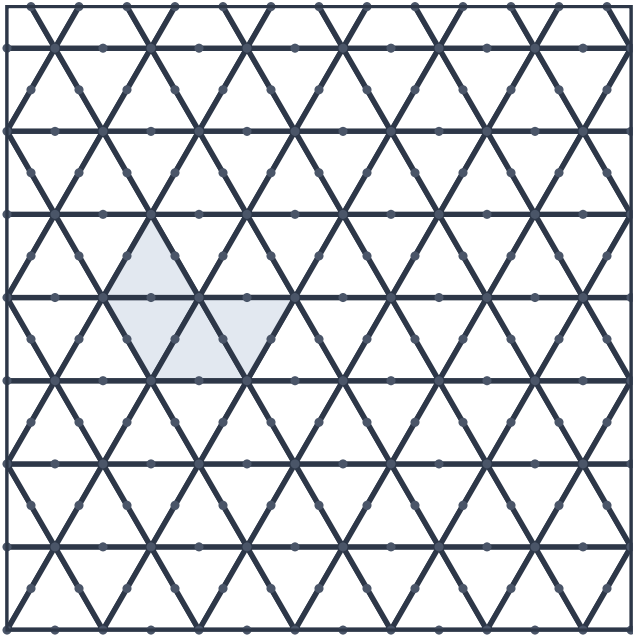


Tessellations

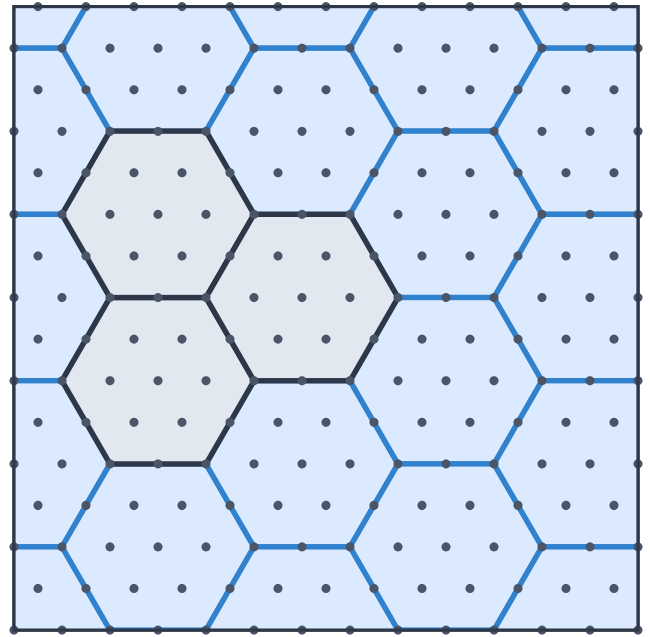
Continue each tessellation to cover the dot paper. Colour it in.

1. Triangles

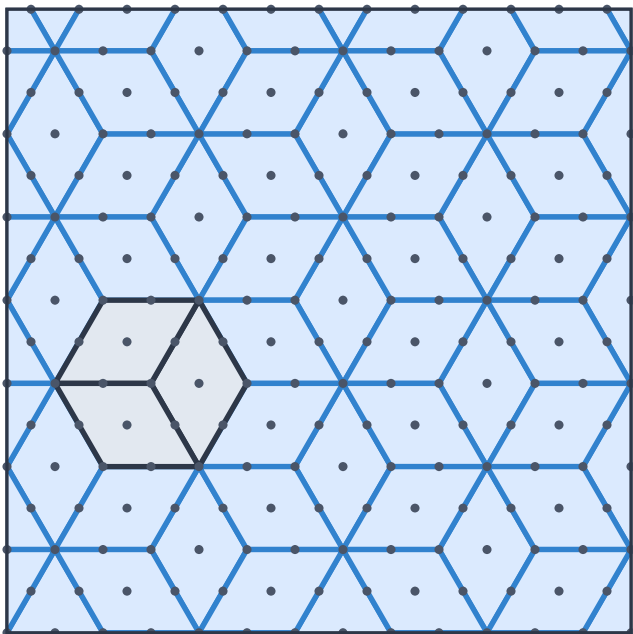
Example



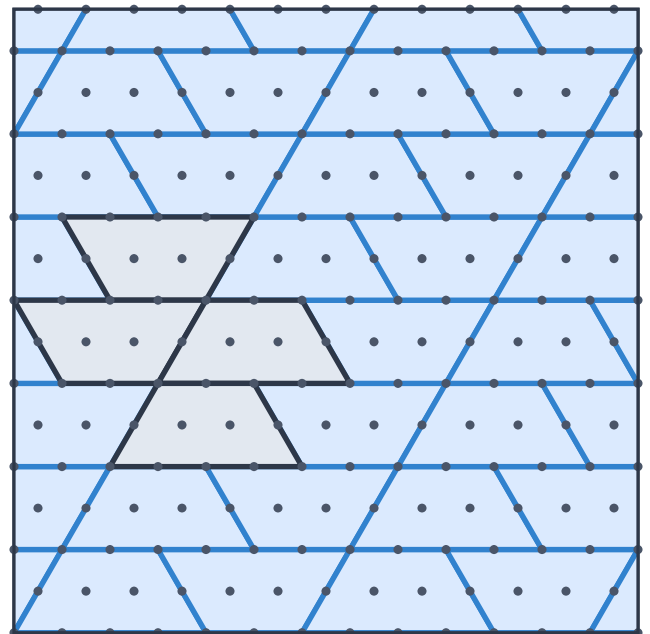
2. Hexagons



3. Rhombuses



4. Trapeziums

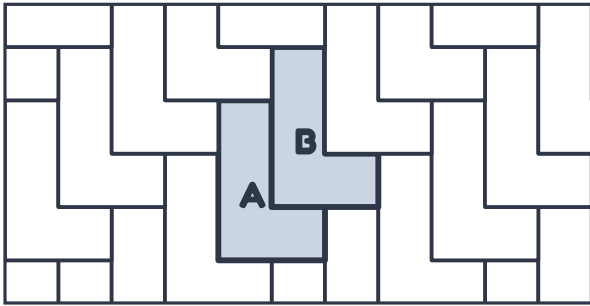


Tessellations

Which move takes tile A to tile B? Circle it.

1.

Example

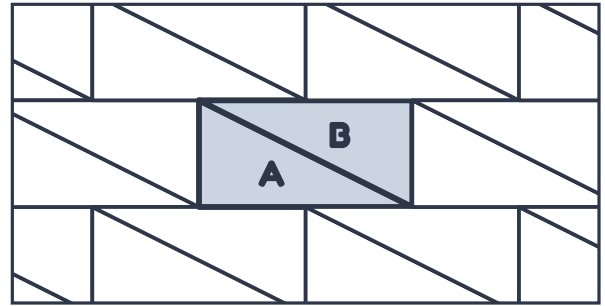


translate
(slide)

reflect
(flip)

rotate
(turn)

2.

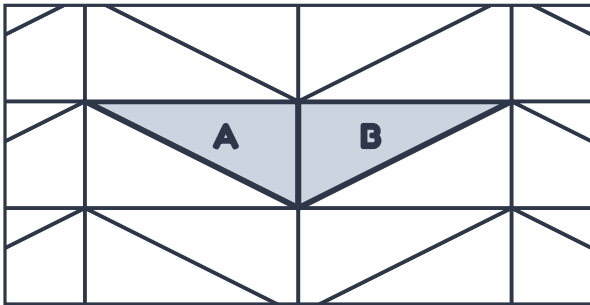


translate
(slide)

reflect
(flip)

rotate
(turn)

3.

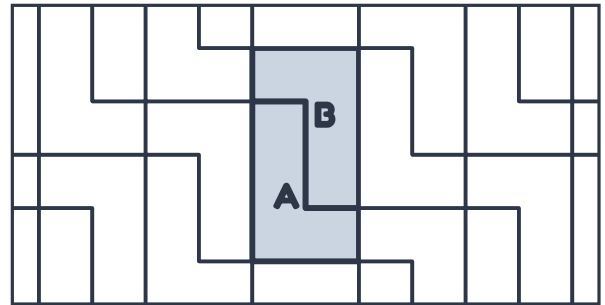


translate
(slide)

reflect
(flip)

rotate
(turn)

4.

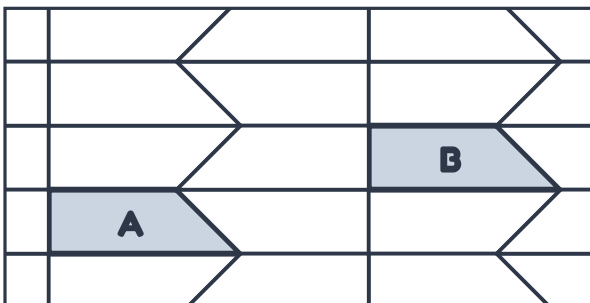


translate
(slide)

reflect
(flip)

rotate
(turn)

5.

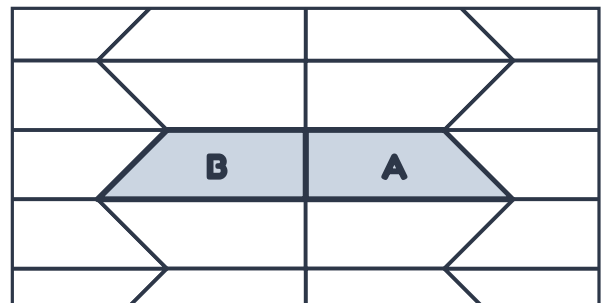


translate
(slide)

reflect
(flip)

rotate
(turn)

6.



translate
(slide)

reflect
(flip)

rotate
(turn)

Tessellations

Find the angle of the gap. Which regular shape fits it, if any?



triangle
60°



square
90°



pentagon
108°



hexagon
120°



octagon
135°



decagon
144°



dodecagon
150°

1.



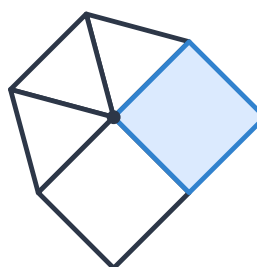
Example

Which regular shape fits?

square

$$135^\circ + 135^\circ + \underline{90}^\circ = 360^\circ$$

2.

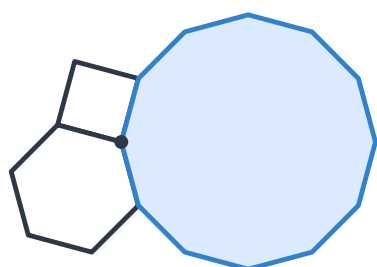


Which regular shape fits?

square

$$60^\circ + 60^\circ + 60^\circ + 90^\circ + \underline{90}^\circ = 360^\circ$$

3.

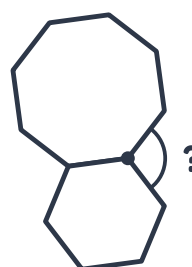


Which regular shape fits?

dodecagon

$$90^\circ + 120^\circ + \underline{150}^\circ = 360^\circ$$

4.

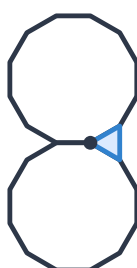


Which regular shape fits?

none

$$135^\circ + 120^\circ + \underline{105}^\circ = 360^\circ$$

5.

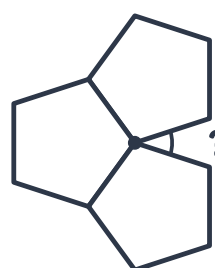


Which regular shape fits?

triangle

$$150^\circ + 150^\circ + \underline{60}^\circ = 360^\circ$$

6.



Which regular shape fits?

none

$$108^\circ + 108^\circ + 108^\circ + \underline{36}^\circ = 360^\circ$$