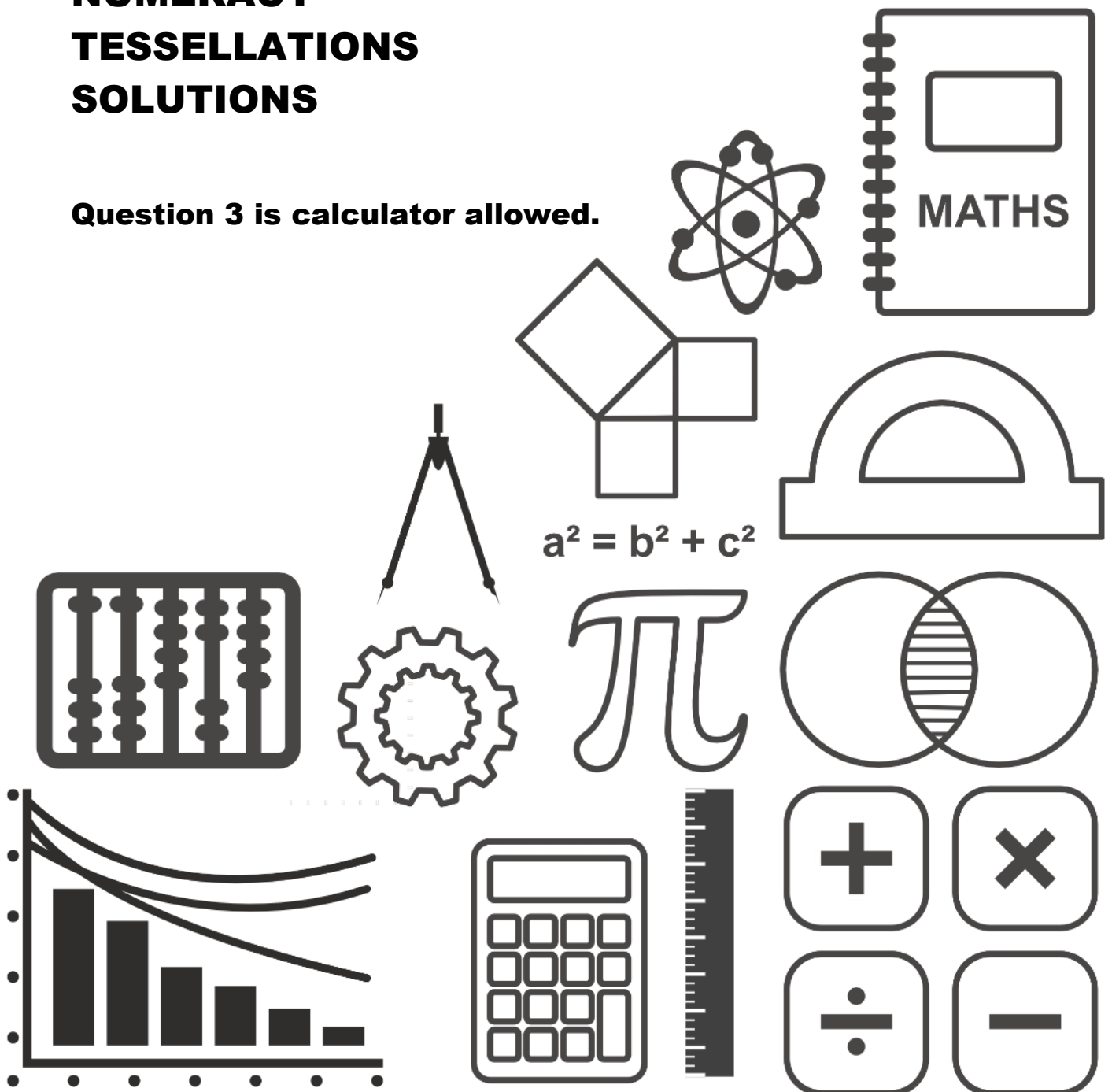


MATHSDIY

GCSE TOPIC BOOKLET NUMERACY TESSELLATIONS SOLUTIONS

Question 3 is calculator allowed.



1.

Tref-tiles has 5 boxes of tiles on special offer.
All the tiles in each box are identical.

Box	A	B	C	D	E
Shape of tile	Square	Rhombus	Regular pentagon	Right-angled triangle	Circle

3 of these boxes contain tiles that tessellate.
Manon is asked to select these 3 boxes.
Which **3 boxes** should Manon select? [2]

Circles definitely don't tessellate. Don't choose E.

Regular pentagons won't tessellate because the interior angle is 108° , and $360/108$ isn't a whole number. Don't choose C.

Box A, box B and box D

2.

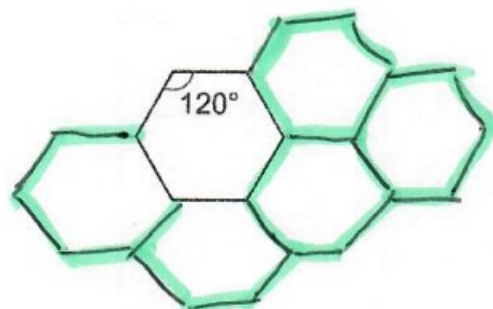
Sam's Garden Centre buys trees to sell.

The trees are planted in identical pots. They each have a uniform cross-section in the shape of a regular hexagon.

Show that these pots will tessellate.

fits together with no gaps

[1]



3. Gustav is making some scones for his sister's birthday party.

Gustav also makes a birthday cake for his sister.

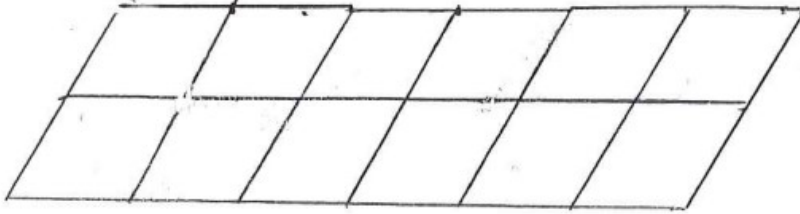
Gustav also plans to decorate the cake with small pieces of marzipan shaped as shown below.


The top face of each piece of marzipan is a rhombus.
Will these pieces of marzipan tessellate?

Yes

No

Draw a simple diagram to support your answer.




you must
draw at least
4 shapes to get
the mark [1]