

AREA
Right Triangles

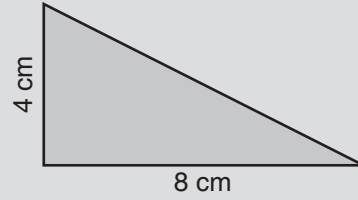
Any rectangle can be split into two right triangles.

Two congruent right triangles can always be arranged to make a rectangle.

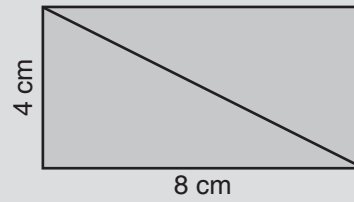
To find the area of any right triangle, we think of the triangle as half of a rectangle.

EXAMPLE

Find the area of the right triangle below.



We can arrange two copies of the triangle above to make a rectangle as shown.



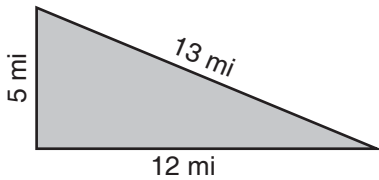
The rectangle has an area of $4 \times 8 = 32$ sq cm. The triangle is half the area of the rectangle. So, the area of the triangle is $32 \div 2 = 16$ sq cm.



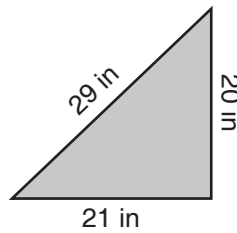
PRACTICE

Find the area of each right triangle below.

43.

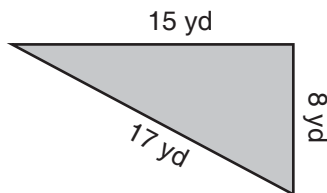


44.

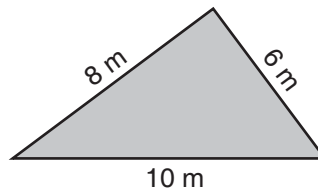


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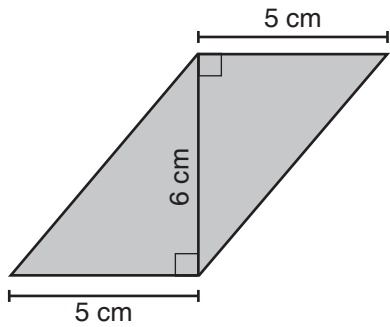
Right Triangles AREA

Right angles are sometimes marked with little squares like these to let you know they are right angles.

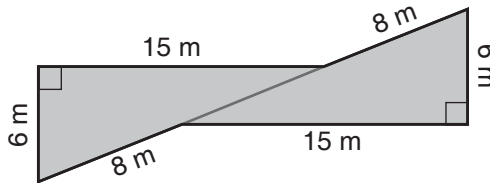


PRACTICE Find the area of each shape below.

47.



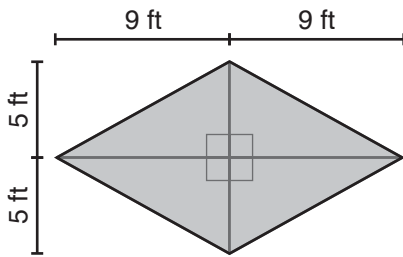
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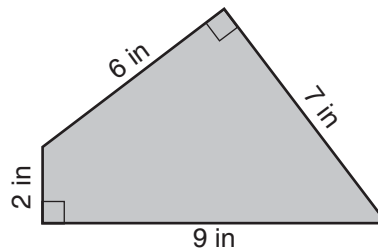
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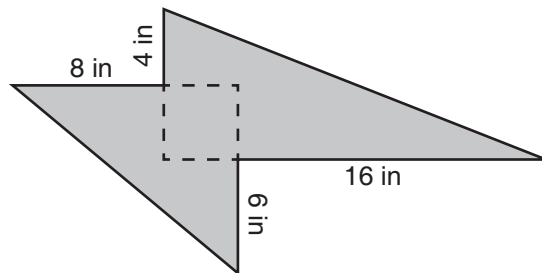
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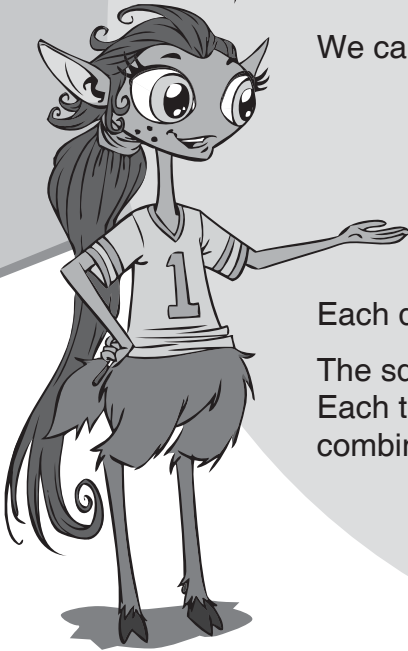


Two right triangles overlap to make the shape below. The area where the triangles overlap is a 4 inch by 4 inch square. What is the area of the whole shape?

51. _____



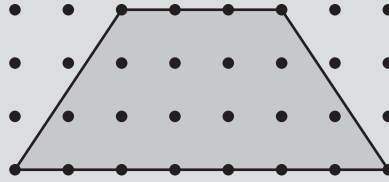
We can use right triangles to find the area of a shape drawn on a dot grid.



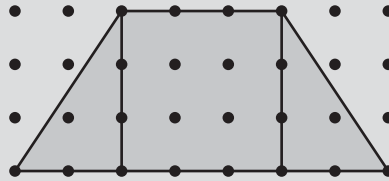
In each dot grid below, each dot is 1 unit from its nearest horizontal and vertical neighbor.

EXAMPLE

Find the area of the quadrilateral traced on the dot grid below.



We can split the shape into three parts: two triangles and one square.



Each dot is one unit from its nearest horizontal and vertical neighbor.

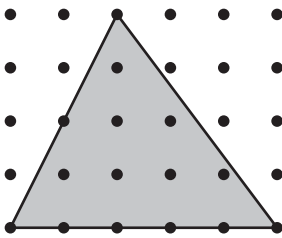
The square has an area of $3 \times 3 = 9$ square units. Each triangle is half of a 2 by 3 rectangle. So, the combined area of the triangles is $2 \times 3 = 6$ square units.

All together, the shape has an area of $9 + 6 = 15$ square units.

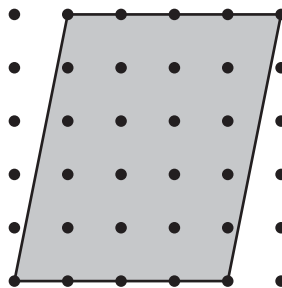
PRACTICE

Find the area of the shaded region on each dot grid below.

52.



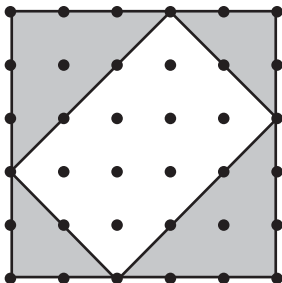
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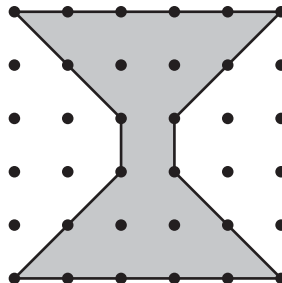
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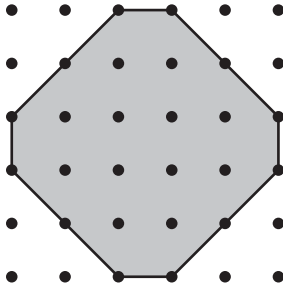
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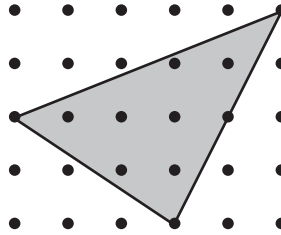
PRACTICE

Find the area of the shaded region on each dot grid below.

56.



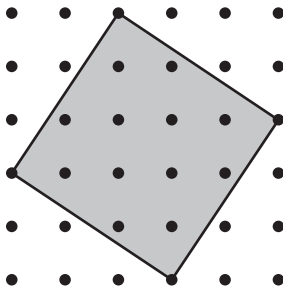
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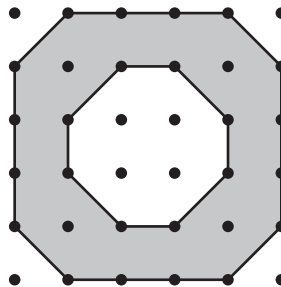
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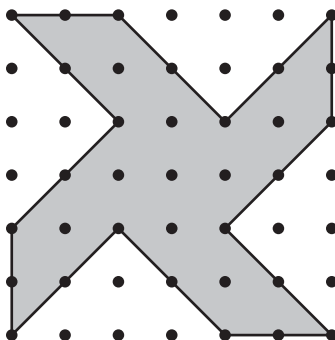
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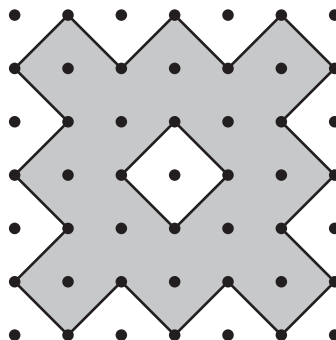
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