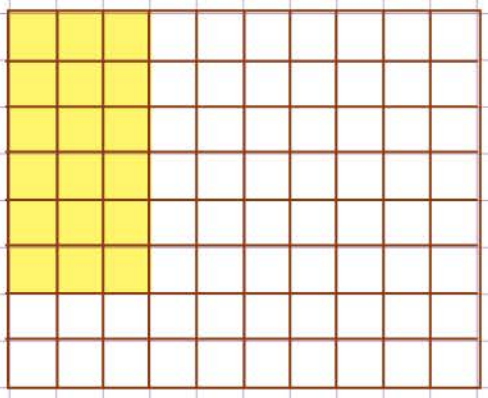
Name: ..... Class: .....

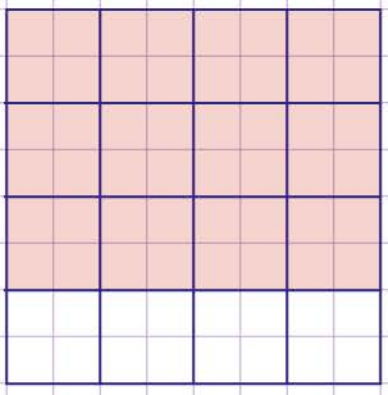
Understand fraction multiplication and area

Find the area of the shaded regions in the models below.

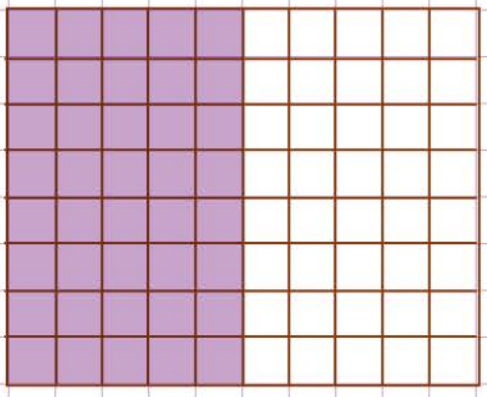
a.



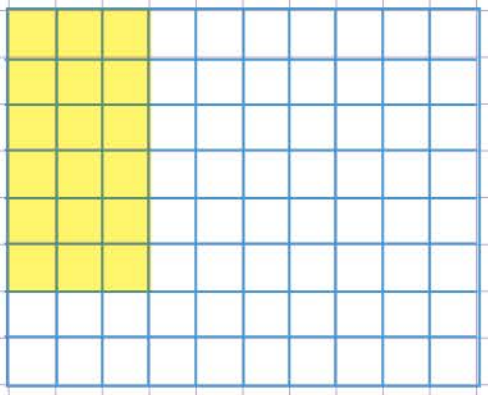
b.



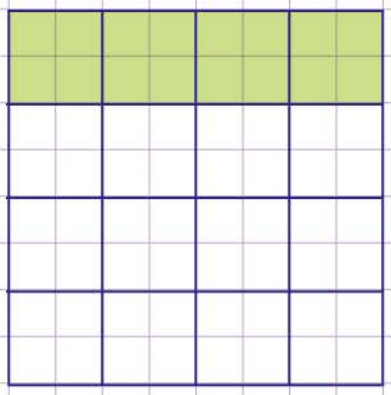
c.



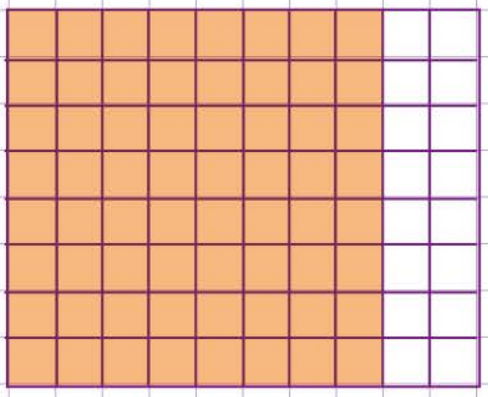
c.



d.



e.



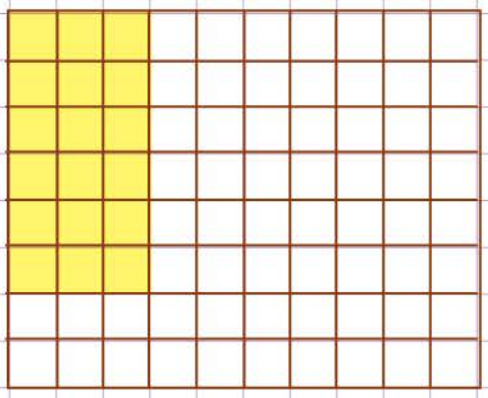
Solution

Name: ..... Class: .....

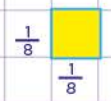
Understand fraction multiplication and area

Find the area of the shaded regions in the models below.

a.



Each side of the model is one unit long.
Let's first of all find the side length of each small square.
You see that, there are 8 small squares along each side.
So, the side lengths of each small square is $\frac{1}{8}$ units.
Now, let's find the area of each small square.



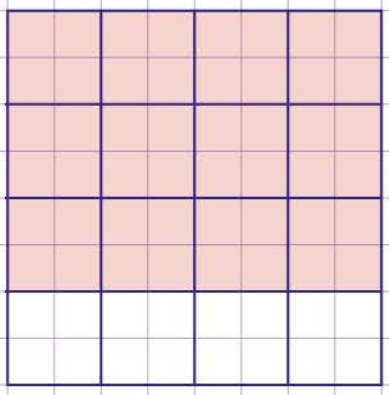
Area = $\frac{1}{8} \times \frac{1}{8} = \frac{1}{64}$ square units

Finally, to find the area of the shaded part, we count the number of squares in the shaded part and multiply by $\frac{1}{64}$ square units.
So, area =

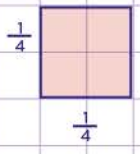
$18 \times \frac{1}{64}$ square units

$= \frac{18}{64}$ square units.

b.



Each side of the model is one unit long.
Let's first of all find the side length of each small square.
You see that, there are 4 small squares along each side.
So, the side lengths of each small square is $\frac{1}{4}$ units.
Now, let's find the area of each small square.



Area = $\frac{1}{4} \times \frac{1}{4} = \frac{1}{16}$ square units

Finally, to find the area of the shaded part, we count the number of squares in the shaded part and multiply by $\frac{1}{16}$ square units.
So, area =

$12 \times \frac{1}{16}$ square units.

$= \frac{12}{16}$ square units.