

UNDERSTANDING FRACTIONS

CONTENT DOMAIN REFERENCES:

F1

KS2 SATS

PRACTICE QUESTIONS BY TOPIC

1

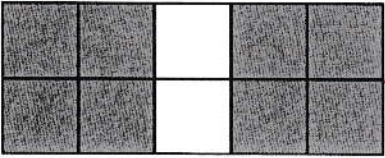
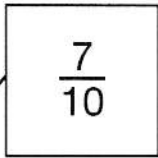
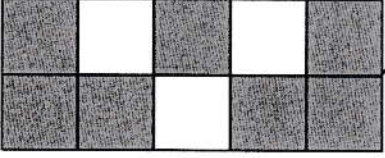
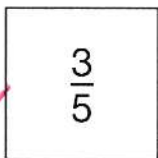
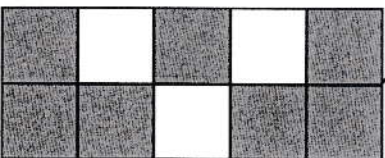
Here are some shapes made of squares.

[2016S]

A fraction of each shape is shaded.

Match each shape to its equivalent fraction.

One has been done for you.

$\frac{8}{10}$		$\frac{7}{10}$
$\frac{3}{10}$		$\frac{3}{5}$
$\frac{7}{10}$		$\frac{1}{2}$
$\frac{6}{10}$		$\frac{4}{5}$
$\frac{5}{10}$		$\frac{3}{10}$

Connections: A black line connects the first shape to $\frac{7}{10}$. Pink lines connect the second shape to $\frac{3}{5}$, the third shape to $\frac{1}{2}$, the fourth shape to $\frac{4}{5}$, and the fifth shape to $\frac{3}{10}$.

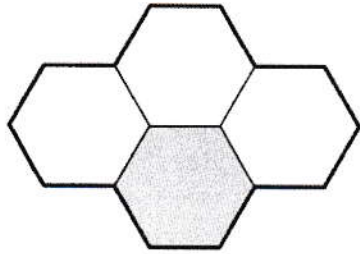
[2 marks]

2

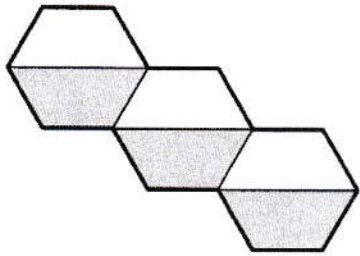
Here are three shapes made from regular hexagons.

[2012]

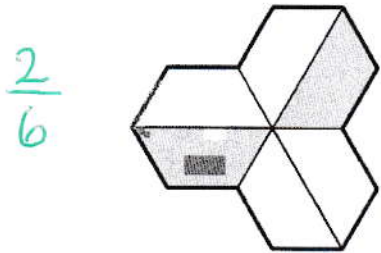
Write the fraction of each shape that is shaded.



$$\frac{1}{4}$$



$$\frac{1}{2}$$



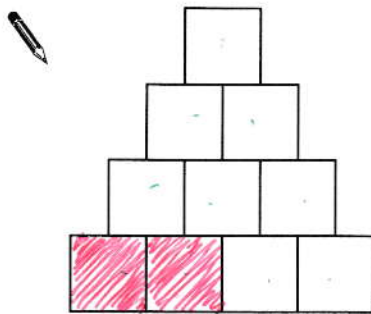
$$\frac{1}{3}$$

[2 marks]

3

Shade $\frac{1}{5}$ of this shape.

[2008]



10 SQUARES
SO $\frac{1}{5}$ IS TWO SQUARES

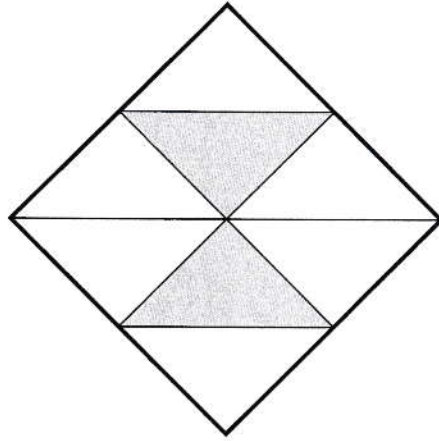
[ANY TWO SQUARES]

[1 mark]

4

Here is a square.

[2004]



$$\frac{2}{8}$$

What fraction of the square is shaded?



[1 mark]

5

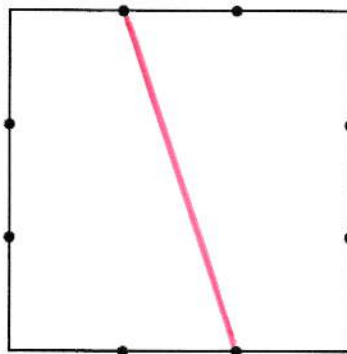
This square has two dots on each side.

[2012]

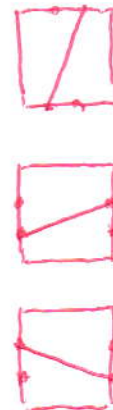
The dots are equally spaced.

Join two dots to divide the square into **two equal parts**.

Use a ruler.



OR...

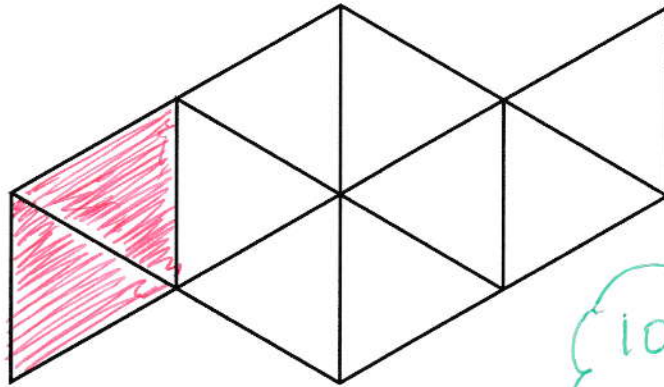


[1 mark]

6

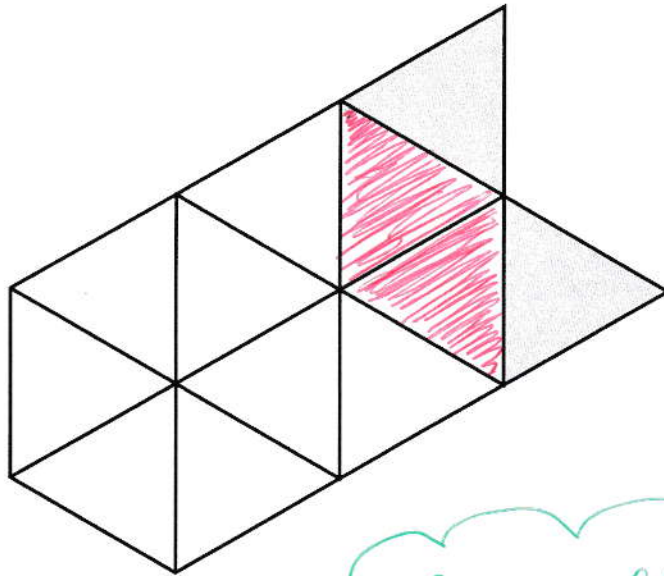
Shade $\frac{1}{5}$ of this shape.

[2015]



10 TRIANGLES
SO SHADE ANY TWO

Shade **more** triangles on this shape so that $\frac{1}{3}$ is shaded.



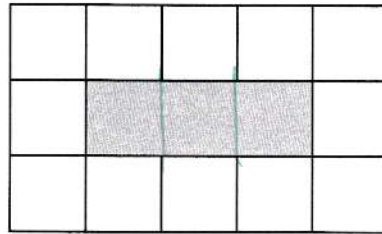
[ANY TWO]

12 TRIANGLES
SO NEED A TOTAL OF
 $\frac{4}{12}$ SHADED

[2 marks]

7 This diagram shows a shaded rectangle surrounded by squares.

[2011]



$$\frac{3}{15}$$

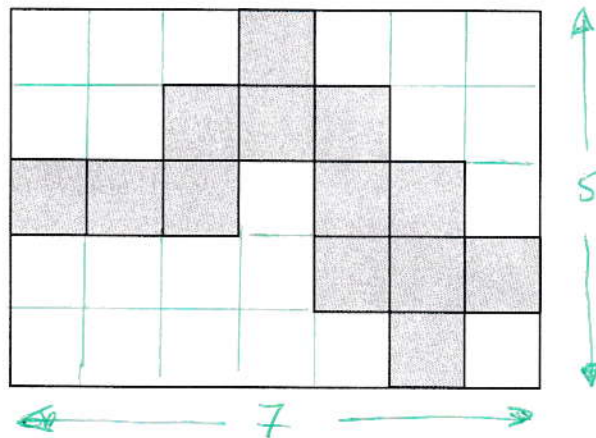
What fraction of the diagram is shaded?


$$\frac{1}{5}$$

[1 mark]

8 Here is a rectangle with 13 identical shaded squares inside it.

[2003]



$$\frac{13}{35}$$

What fraction of the rectangle is shaded?

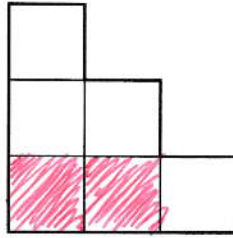

$$\frac{13}{35}$$

[1 mark]

9

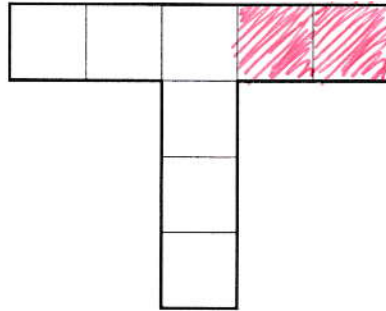
Shade **one third** of this shape.

[2001]



6 SQUARES,
SO SHADE $\frac{2}{6}$

Shade **one quarter** of this shape.



8 SQUARES,
SO SHADE $\frac{2}{8}$

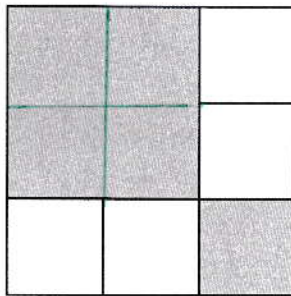
[2 marks]

10

The diagram is made of squares.

[2005]

What fraction of the diagram is shaded?



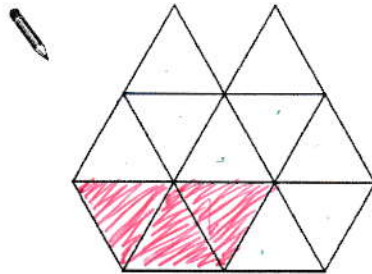
$\frac{5}{9}$

[1 mark]

11

Shade $\frac{1}{4}$ of this shape.

[2012]



12 TRIANGLES,
SO SHADE $\frac{3}{12}$

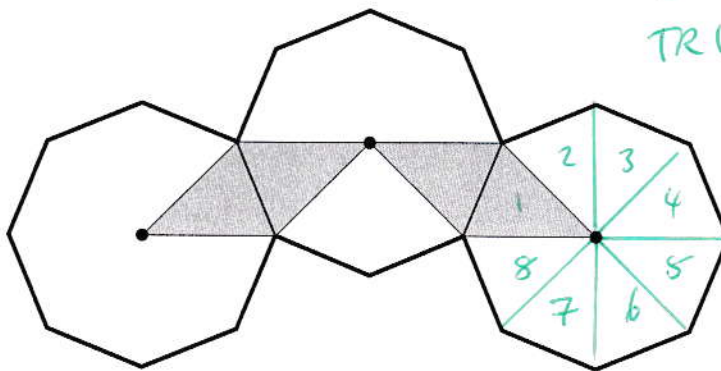
[1 mark]

12

The diagram shows three regular octagons joined together.

[2007]

There is a dot at the centre of each octagon.



TOTAL OF 24
TRIANGLES SO
 $\frac{4}{24}$ IS SHADED

What fraction of the diagram is shaded?

$\frac{1}{6}$

[1 mark]

13

[2009]

Stefan has a bag that contains 3 blue marbles and 5 red marbles only.

8 TOTAL



What fraction of the marbles in the bag are blue?

$\frac{3}{8}$

Stefan adds one blue marble and one red marble to the bag.

TOTAL IS NOW 10!

What fraction of the marbles in the bag are blue now?

ONE MORE BLUE → 4
TWO MORE MARBLES! → 10

$\frac{2}{5}$

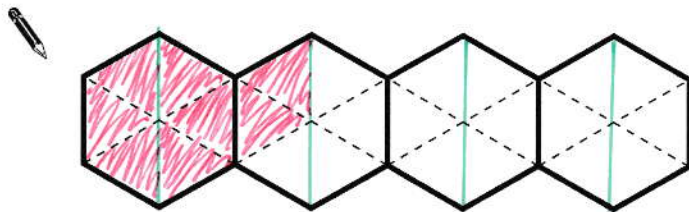
[2 marks]

14

[2003]

This diagram shows four regular hexagons.

Shade in one third of the diagram.



[ANY 8 SQUARES!]

TOTAL OF 24 TRIANGLES, SO SHADE $\frac{8}{24}$

[1 mark]