

# M6 = 26 days to go!

~~80~~ tickets  
81 tickets.

- 3 Tickets numbered from 1 to 81 are placed in a hat.  
One winning ticket is taken at random.

(a) What is the probability that the winning ticket is the number 70?

1 ticket

Answer  $\frac{1}{81}$  [1]

(b) What is the probability that the winning ticket is a number bigger than 70?

Bigger than 70

71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81

11 tickets

Answer \_\_\_\_\_ [2]

$\frac{11}{81}$

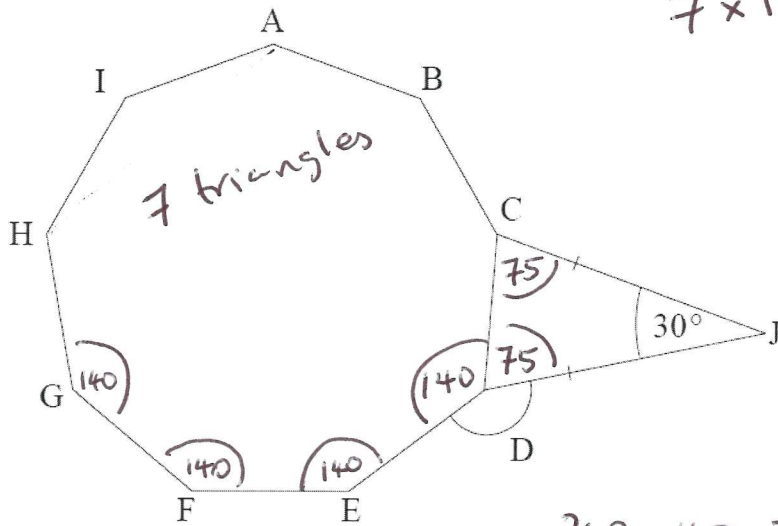
(c) Explain why the probability of the winning ticket having an even number is not  $\frac{1}{2}$

You cannot have  $\frac{1}{2}$  of 81 tickets. [1]

$$\frac{1}{2} = \frac{40}{80} = \frac{41}{82}$$

but not 81

9



$$7 \times 180 = 1260$$

isosceles triangle  
diagram not drawn accurately

$$150 \div 2 = 75^\circ \text{ each}$$

$$360 - 140 - 75 = 145^\circ$$

The diagram shows a regular nonagon ABCDEFGHI with an isosceles triangle DCJ attached.

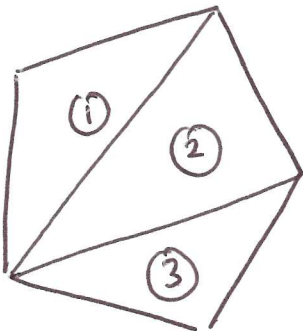
The angle DJC =  $30^\circ$

Calculate the size of the angle EDJ.

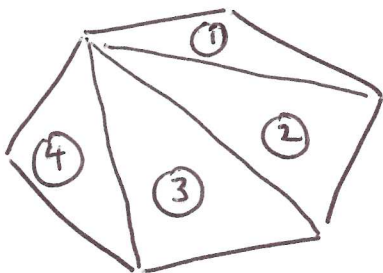
Show your working clearly.

Remember to split into triangles  
Pentagon has 3 triangles

$$3 \times 180 = 540$$

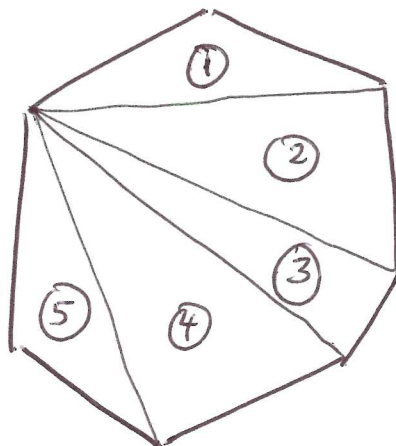


Hexagon



$$4 \times 180 = 720^\circ$$

Heptagon



$$5 \times 180$$

$$900^\circ$$