




COUNTDOWN TO YOUR FINAL MATHS EXAM ...

PART 10 (2018)



	Marks	Actual	  
Q1. Probability (Clip 50)	5		
Q2. Pie charts (Clip 49)	4		
Q3. Probability tree diagrams (Clips 51/52)	4		
Q4. Pie charts (Clip 49)	5		
Q5. Probability from a table (Clip 50)	4		
Q6. Sampling (Clip 48)	3		
Q7. Pie charts (Clip 49)	3		
Q8. Probability & fractions	3		
Q9. Probability tree diagrams (Clips 51/52)	3		
Q10. Probability tree diagrams (Clips 51/52)	3		
Q11. Probability from a table (Clip 50)	2		
Q12. Probability tree diagrams (Clips 51/52)	5		
Q13. Probability from a table (Clip 50)	4		
Q14. Pie charts (Clip 49)	4		
Q15. Probability tree diagrams (Clips 51/52)	5		
Q16. Pie charts (Clip 49)	5		
Q17. Probability from a table (Clip 50)	2		
Q18. Pie charts (Clip 49)	4		
Q19. Probability tree diagrams (Clips 51/52)	3		

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Questions

Q1. There are 100 beads in a bag.

- 50 of the beads are red
- 25 of the beads are blue
- 15 of the beads are green
- The rest of the beads are yellow

Sally takes at random a bead from the bag.

What is the probability that the bead is

(a) green,

(2)

(b) black,

(1)

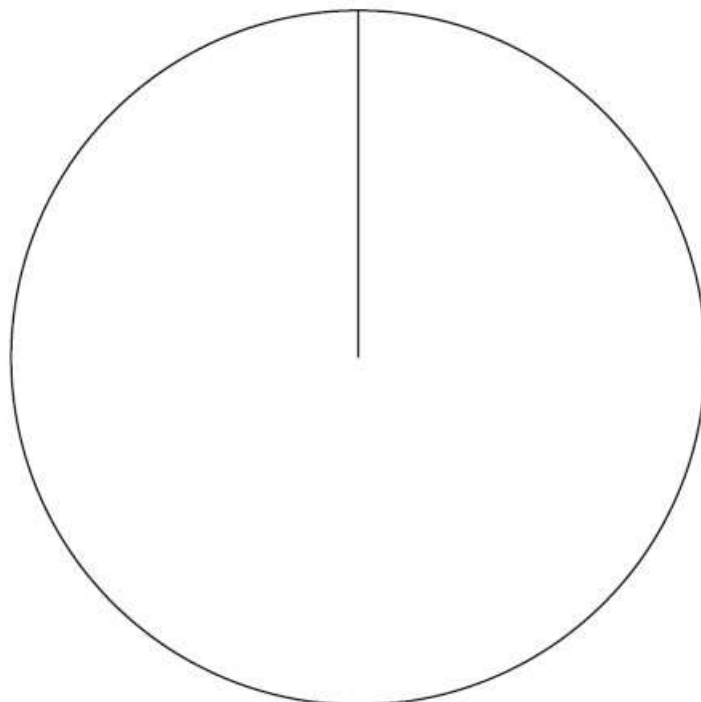
(c) yellow?

(2)

Q2. A group of Year 10 students was asked to choose a new subject to study. The table shows information about the choices.

Subject	Number of students	
construction	40	
hairdressing	56	
tourism	24	

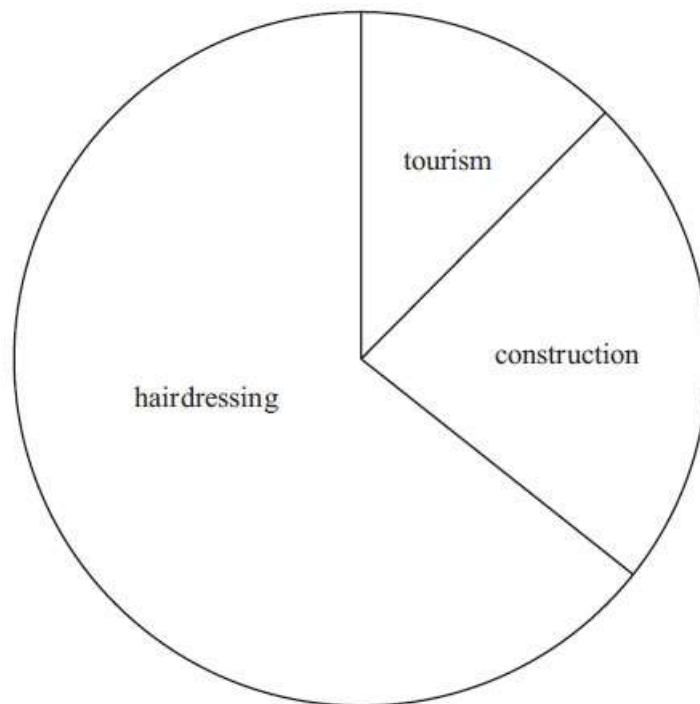
(a) Draw an accurate pie chart to show this information.



(3)

A group of Year 11 students was also asked to choose a new subject to study.

This pie chart shows information about their choices.



Danny says: "The pie charts show that hairdressing was chosen by more Year 11 students than by Year 10 students."

(b) Is Danny correct? You must explain your answer.

(1)

Q3. Carolyn has 20 biscuits in a tin.

She has

- 12 plain biscuits
- 5 chocolate biscuits
- 3 ginger biscuits

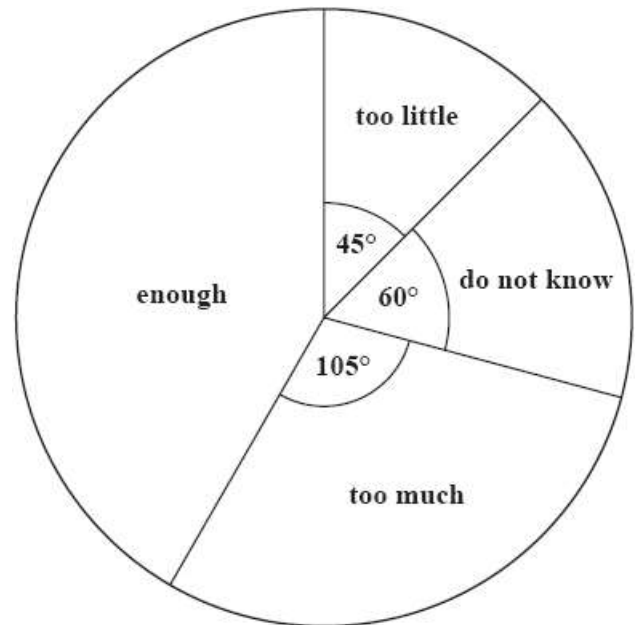
Carolyn takes at random two biscuits from the tin.

Work out the probability that the two biscuits were **not** the same type.

(4)

Q4. 120 students are asked if they have enough homework one night.

The pie chart shows some information about their answers.



(a) Work out the number of students who answered **do not know**.

(2)

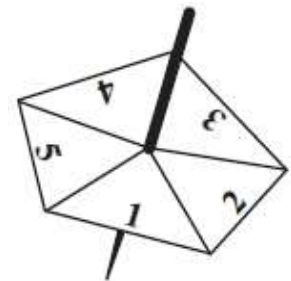
(b) Work out the number of students who answered **enough**.

(3)

Q5. Here is a five-sided spinner.

The table shows the probabilities that the spinner will land on 1 or 2 or 3 or 4 or 5

Number	1	2	3	4	5
Probability	0.15	0.20	0.10	0.25	0.30



Pete spins the spinner once.

(a) Work out the probability that the spinner will land on a number greater than 2



(2)

Elinor is going to spin the spinner 200 times.

(b) Work out an estimate for the number of times the spinner will land on 5

(2)

Q6. Henri is carrying out a survey of the people aged 65 and over in his village. The table shows information about these people.

Henri is going to take a sample of 30 people stratified by age.

How many people aged 75 – 79 should be in the sample?

Age	Male	Female
65 – 69	20	22
70 – 74	18	21
75 – 79	15	18
80 – 84	8	16
85 – 89	5	10
90+	2	5
Total	68	92

(3)

Alan spins spinner **A** once and he spins spinner **B** once.
He does this a number of times.

The number of times **both** spinners land on red is 24

Work out an estimate for the number of times **both** spinners land on white.

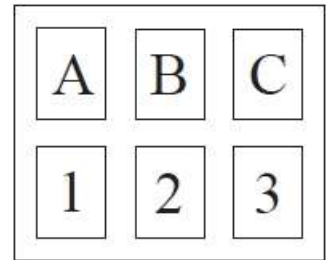
Q10. The diagram shows a security lock.

You have to enter the correct code to open the lock.
The correct code is B3

Dan does **not** know the code.

He enters at random one of the letters.
He then enters at random one of the numbers.

Work out the probability that Dan enters the correct code.



Q11. There are 20 sweets in a box.

x of the sweets are red.
The rest of the sweets are yellow.

Tom takes at random a sweet from the box.

Write down an expression, in terms of x , for the probability that Tom takes a yellow sweet.



Q12. There are three different types of sandwiches on a shelf.

There are

4 egg sandwiches,
5 cheese sandwiches
and 2 ham sandwiches.

Erin takes at random 2 of these sandwiches.

Work out the probability that she takes 2 different types of sandwiches.



(5)

Q13. Tim plays a game. He can win the game or he can lose the game or he can draw the game.

The probability that Tim will win the game is 0.25

The probability that Tim will lose the game is x .



(a) Give an expression, in terms of x , for the probability that he will draw the game.

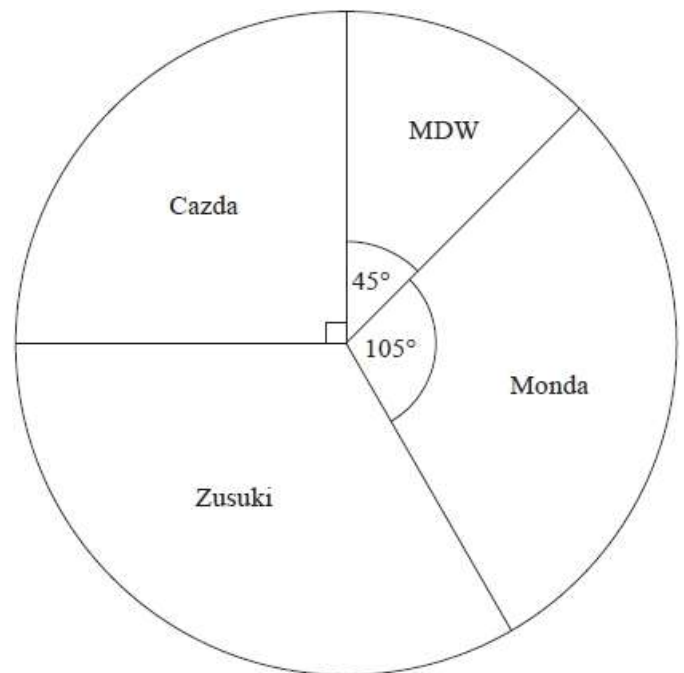
(2)

Tim plays the game 240 times.

(b) Work out an estimate for the number of times he will win the game.

(2)

Q14. Some drivers are asked which make of car they like best. The pie chart and table show some information about their answers.



Complete the table.

Make of car	Number of drivers	Angle of sector
MDW	18	45°
Cazda	90°
Zusuki	48
Monda	105°

(4)

Q15. There are 10 socks in a drawer.

7 of the socks are brown.

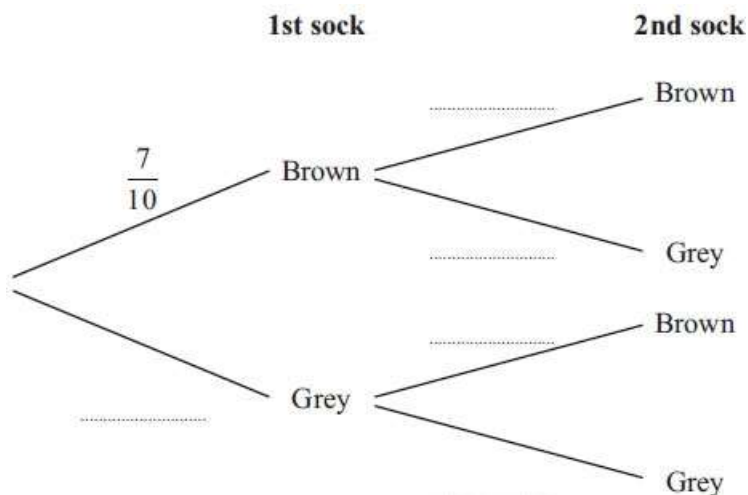
3 of the socks are grey.



Bevan takes at random two socks from the drawer at the same time.

(a) Complete the probability tree diagram.

(2)



(b) Work out the probability that Bevan takes two socks of the same colour.

(3)

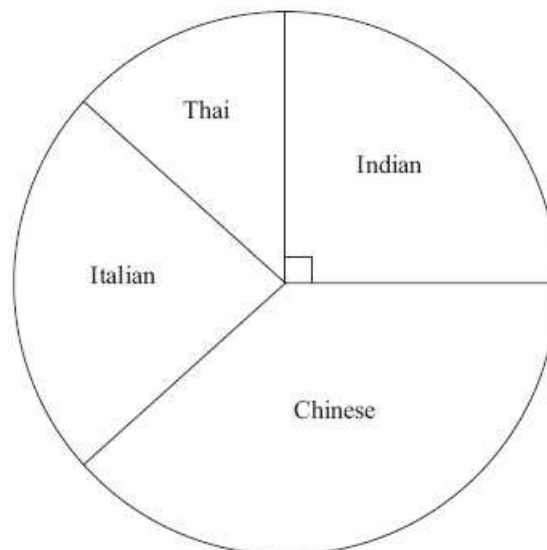
Q16. The pie chart shows some information about the types of food that 60 people like best.

(a) (i) Measure the angle for Thai.

(ii) What fraction of the people like Thai food best?

(2)

(b) Work out the number of people who like Chinese food best.



(3)

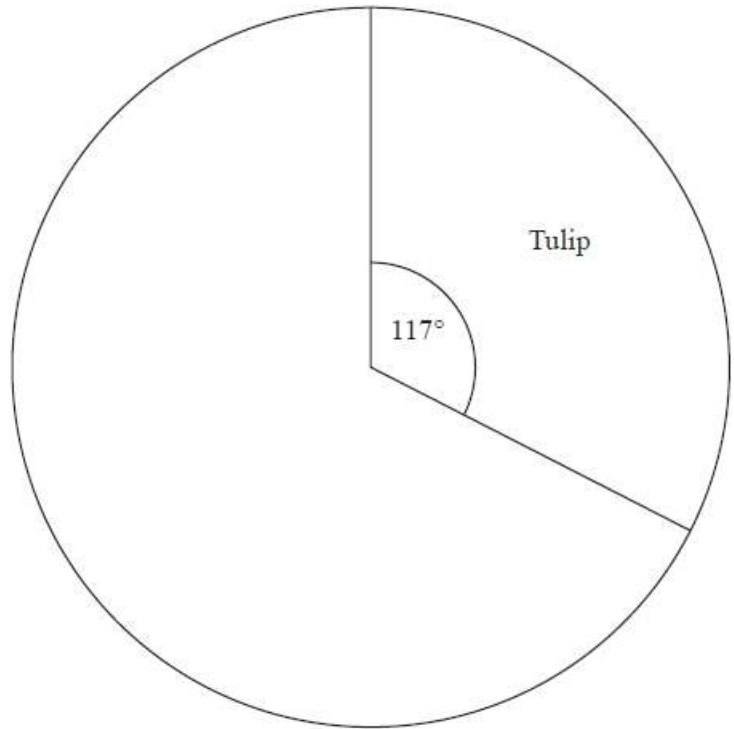
Q17. The probability that a pea plant will grow from a seed is 93%. Sarah plants 800 seeds.

Work out an estimate for the number of seeds that will grow into pea plants.

(2)

Q18. Linda planted 400 flower bulbs. She planted daffodil bulbs, tulip bulbs and hyacinth bulbs. The incomplete table and pie chart show some information about the bulbs.

Type of bulb	Number planted
Daffodil	180
Tulip
Hyacinth
Total	400



Complete the table and the pie chart.

(4)

Q19. Here are 10 letters.

A A B C C C D E E F

Wallid takes at random one of the letters.

(a) Write down the probability that he takes a letter C.

(2)

(b) Write down the probability that he does **not** take a letter C.

(1)