GCSE

MATHEMATICS

Topic tests – Higher tier– Probability and statistics

Name

1   20 students choose a sport.

	Tennis	Basketball	Football
Boys	4	3	5
Girls	5	2	1

1 **(a)** How many students did **not** choose football?

[2 marks]

Answer _____

1 **(b)** What percentage of students choose tennis?

[3 marks]

Answer _____ %

1 **(c)** Considering the boys and the girls separately, compare their relative frequencies of choosing basketball.

[3 marks]

2   A music shop manager wants to know whether people buy music from shops or websites.

2 **(a)**   One of the questions he asks is

> Do you use music shops?

Write down **one** criticism of the question.

[1 mark]

_____

_____

2 **(b)**   Write a suitable question to find whether people buy music from shops or websites.

You should include a response section.

[2 marks]

2 (c) The manager decides to survey the first 20 customers entering his shop on a Monday morning.

Give **one** reason why this sample is likely to be biased.

[1 mark]

_____

_____

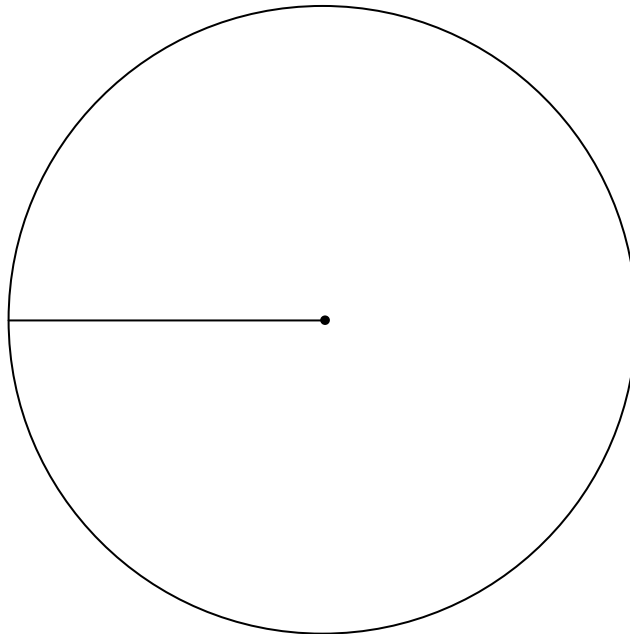**2 (d)** How should the manager choose a sample?

[2 marks]

_____

_____

_____

_____

_____

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3   The table shows where 72 people went on holiday.

Spain	36	
Portugal	18	
Turkey	6	
Other	12	
	Total $=$ 72	

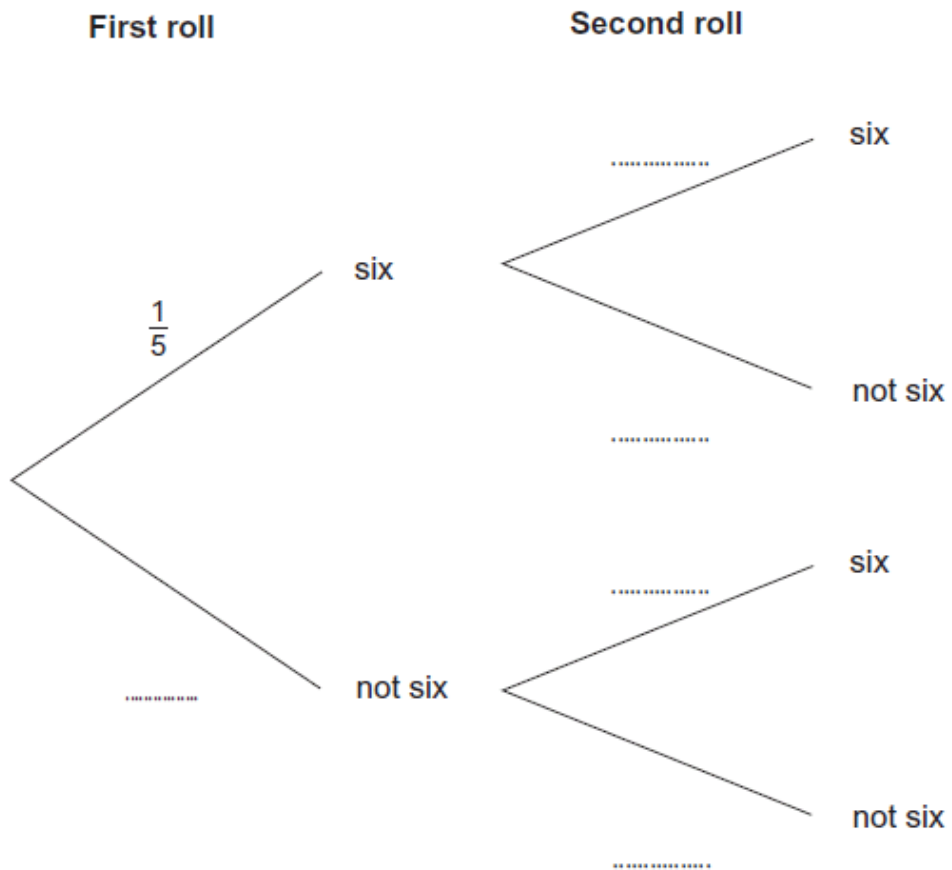Draw a fully labelled pie chart for the data.

[4 marks]

4 The probability of rolling a six on a biased dice is $\frac{1}{5}$

The dice is rolled twice.
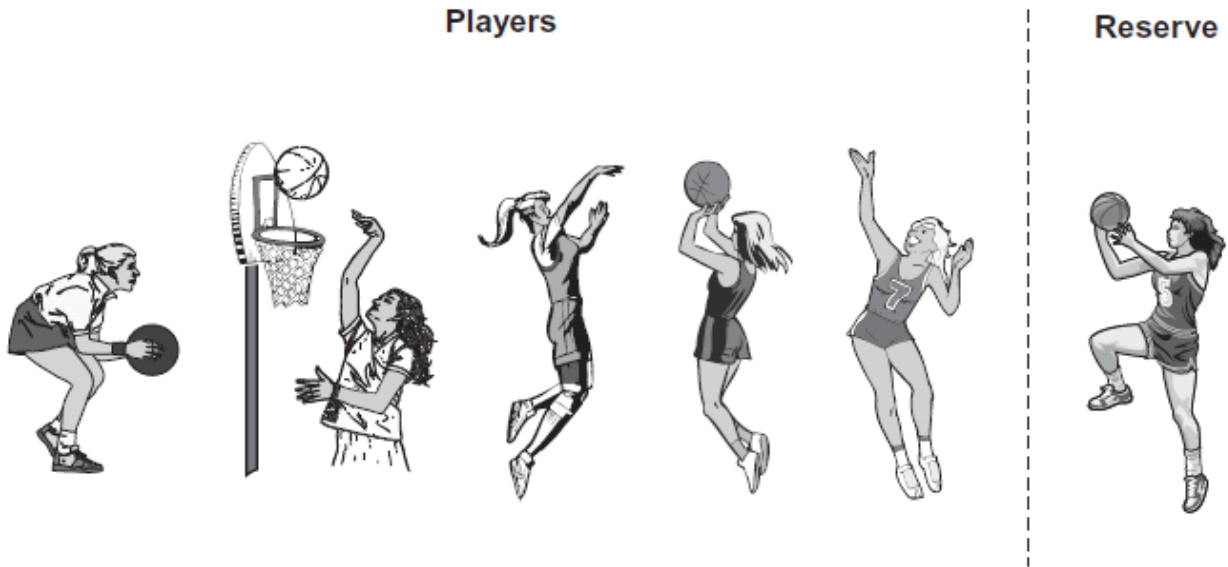
4 (a) Complete the tree diagram.

[2 marks]

First roll   **Second roll**

                                                    six
                            ....
                    six
            $\frac{1}{5}$
                                                    not six
                            ....

                                                    six
                            ....
            .... not six
                                                    not six
                            ....

4 (b) Work out the probability of rolling exactly one six.

[2 marks]

Answer _____

AQA

5 A basketball team has five players and one reserve.

Players | **Reserve**

The mean weight of the **five** players is 58 kg
The reserve weighs 64 kg

Work out the mean weight of all **six** team members.

[3 marks]

Answer _____ kg

END OF QUESTIONS