

End of Unit Test
Probability - HIGHER

Name: Answers



1. (a) In a statistical experiment a fair, ordinary dice is rolled. Tick a box to show the correct ending to the sentence below.

When this statistical experiment is repeated you will:

always get the same outcome

usually get the same outcome

usually get a different outcome

always get a different outcome

(1)

- (b) Tick a box to show the correct ending to the sentence below.

An estimate of probability based on a statistical experiment is more reliable with

more trials

fewer trials

more time between trials

less time between trials

(1)

(Total 2 marks)

2. An ordinary fair dice is rolled 120 times. How many times would you expect to roll a 6?

$\frac{1}{6}$ of 120 = 20

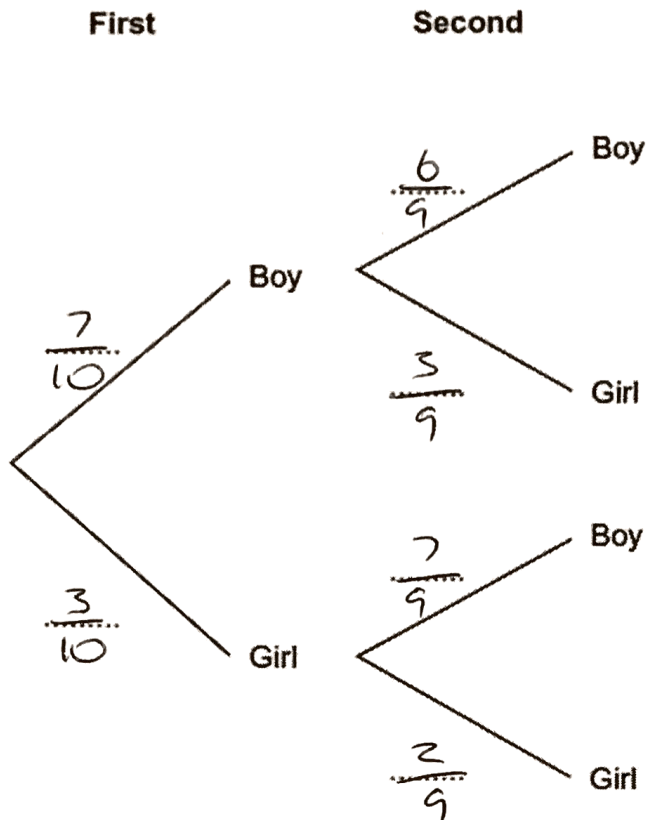
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Answer 20

(Total 2 marks)

3. A team has 7 boys and 3 girls. Stevie chooses two of the team at random.
 (a) Complete the probability tree diagram.



(3)

- (b) Work out the probability that he chooses one boy and one girl.

$P(\text{boy and girl or girl and boy})$
 $= \frac{7}{10} \times \frac{3}{9} + \frac{3}{10} \times \frac{7}{9} = \frac{21}{90} + \frac{21}{90} = \frac{42}{90}$

Answer $\frac{42}{90}$

(3)

(Total 6 marks)

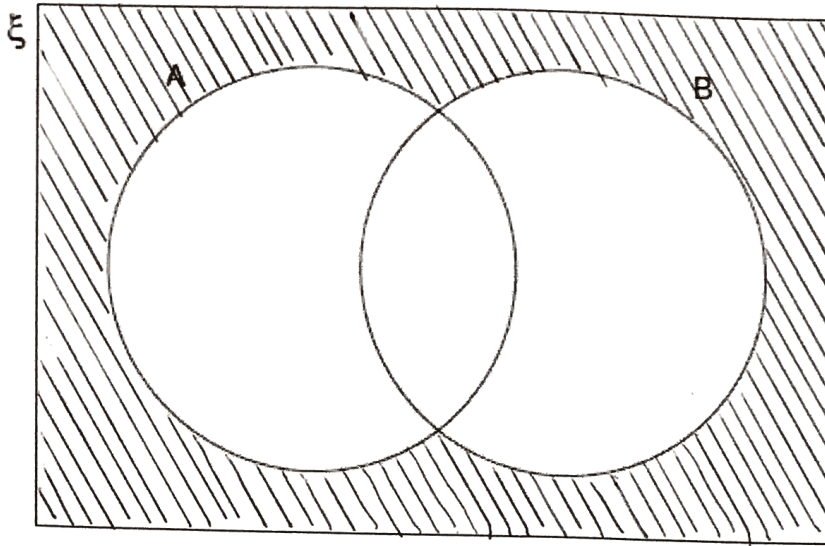
4. The probability that Simon passes his driving test is $\frac{3}{5}$. The probability that Kim passes her driving test is $\frac{4}{7}$. Work out the probability that at **least** one of them passes the driving test.

$P(\text{S pass and k fail}) = \frac{3}{5} \times \frac{3}{7} = \frac{9}{35}$
 $P(\text{S fail and k pass}) = \frac{2}{5} \times \frac{4}{7} = \frac{8}{35}$
 $P(\text{S pass and k pass}) = \frac{3}{5} \times \frac{4}{7} = \frac{12}{35}$
 $\frac{9}{35} + \frac{8}{35} + \frac{12}{35} = \frac{29}{35}$

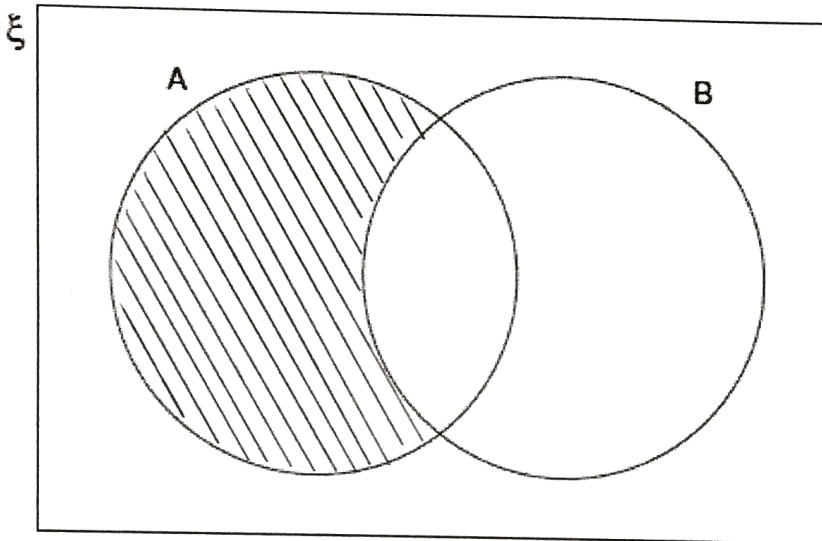
Answer $\frac{29}{35}$

(Total 3 marks)

5. (a) Shade the Venn diagram to show the region $(A \cup B)'$.



- (b) Shade the Venn diagram to show the region $A \cap B'$.

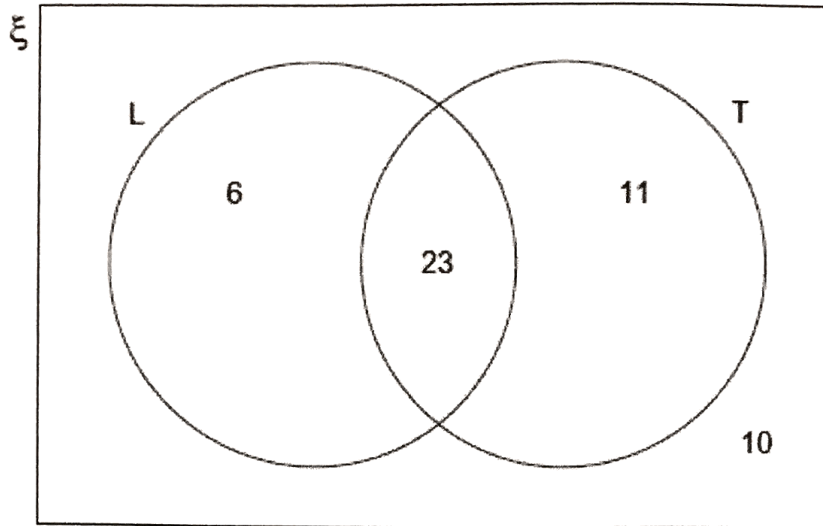


(1)

(1)

(Total 2 marks)

6. Here is a Venn diagram. It shows information about the number of students who have a laptop or a TV. Set L represents students with a laptop. Set T represents students with a TV.



There are 50 students altogether. A student is chosen at random.

- (a) Work out $P(L)$.

Answer $\frac{29}{50}$ (1)

- (b) Work out $P(L \cap T)$.

Answer $\frac{23}{50}$ (1)

- (c) Complete the following using set notation.

$$P(\dots L' \dots) = \frac{21}{50} \quad (1)$$

- (d) Complete the following using set notation.

$$\frac{4}{5} = \frac{40}{50}$$

$$P(\dots L \cup T \dots) = \frac{4}{5} \quad (2)$$

(Total 5 marks)

(Total for test = 20 marks)