**Relative Frequency**

|  |  |  |
| --- | --- | --- |
| Name : | Class : | Date : |

|  |  |  |
| --- | --- | --- |
| Mark : | /10 | % |

|  |  |
| --- | --- |
| **1)** Elisabeth has a biased coin. The probability of it landing on a a head is 0.6. Elisabeth is going to toss the coin 110 times.Work out an estimate for the number of times the coin will land on a head.      | [1]   |
| **2)** Liam has a biased coin. The probability of it landing on a a head is 0.7. Liam is going to toss the coin 140 times.Work out an estimate for the number of times the coin will land on a head.      | [1]   |
| **3)** Harrison rolls a dice 240 times.Work out an estimate for the number of times Harrison rolls an even number      | [1]   |
| **4)** Cameron rolls a dice 348 times.Work out an estimate for the number of times Cameron rolls a number less than 4      | [1]   |
| **5)** The scores for a group of students are recorded in the table below.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Score** | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **Frequency** | 3 | 2 | 9 | 12 | 15 | 2 | 1 |

Find the probability of selecting a studenta)  with a score of 5       b)  with a score of 9        | [1]   |
| **6)** The scores for a group of students are recorded in the table below.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Score** | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| **Frequency** | 2 | 2 | 5 | 7 | 5 | 3 | 3 |

Find the probability of selecting a studenta)  with a score less than or equal to 11       b)  with a score greater than 10        | [1]   |
| **7)** The scores for a group of students are recorded in the table below.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Score** | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **Frequency** | 1 | 1 | 12 | 6 | 20 | 2 | 3 |

Find the probability of selecting a studenta)  with a score less than or equal to 5       b) with a score greater than 7        | [1]   |
| **8)** The test results of 49 students is recorded in the two-way table below. One student is chosen at random.

|  |  |  |
| --- | --- | --- |
|   | **Grade** | **Total** |
| **A** | **B** | **C** |
| **Male** | 9 | 13 | 10 | 32 |
| **Female** | 6 | 8 | 3 | 17 |
| **Total** | 15 | 21 | 13 | 49 |

Find the probability that the student is male and got a grade B.           | [1]   |
| **9)** The test results of 72 students is recorded in the two-way table below. One student is chosen at random. Find the probability that the student got a B.

|  |  |  |
| --- | --- | --- |
|   | **Grade** | **Total** |
| **A** | **B** | **C** |
| **Male** | 14 | 20 | 10 | 44 |
| **Female** | 2 | 18 | 8 | 28 |
| **Total** | 16 | 38 | 18 | 72 |

      | [1]   |
| **10)** The test results of a group of students is recorded in the two-way table below. One student is chosen at random. Find the probability that the student is male.

|  |  |
| --- | --- |
|   | **Grade** |
| **A** | **B** | **C** |
| **Male** | 3 | 6 | 11 |
| **Female** | 7 | 2 | 5 |

      | [1]   |

**Solutions for the assessment Relative Frequency**

|  |  |
| --- | --- |
| **1)**  $66$ | **2)**  $98$ |
| **3)**  $120$ | **4)**  $174$ |
| **5)** a) P(score of 5) = 1/22, b) P(score of 9) = 1/22 | **6)** a) P(less than or equal to 11) =  $\frac{1}{3}$, b) P(greater than 10) =  $\frac{23}{27}$ |
| **7)** a) P(less than or equal to 5) =  $\frac{2}{45}$, b) P(greater than 7) =  $\frac{5}{9}$ | **8)** P(male and got a grade B) =  $\frac{13}{49}$ |
| **9)** P(got a B) =  $\frac{19}{36}$ | **10)** P(is male) =  $\frac{10}{17}$ |