1. By using a calculator, evaluate the following:

(a) \[ \frac{7}{11} - \frac{4}{9} + \frac{2}{7} \]

Answer (a): ................................... [2]

(b) \( \frac{(7068 + 512) \times 3}{814 - 715} \), giving your answer correct to 3 significant figures.

Answer (b): ................................... [2]

(c) \( \sqrt{\frac{7^3 + 6.183}{14.89}} \), giving your answer correct to 3 decimal places.

Answer (c): ................................... [2]

2. (a) Show 20 20 hour on the clock below.
(b) From the above clock, what time will it be in $\frac{3}{2}$ hours later?

Answer (b): .................................. [2]

3. Solve the following pairs of simultaneous equations.

$$3x + 2y = 5$$
$$2x - 3y = 12$$

Answer (a): $x =$ .........................

$y =$ .......................... [3]

4. (a) The following represents a family’s monthly expenditure. If the amount spent on education is $150, find the amount spent on food.

Answer (a): $ ......................... [2]
(b) A survey was carried out to find out the number of hours a group of 50 students spend studying each day. The results are shown in the following table.

<table>
<thead>
<tr>
<th>NO. OF HOURS</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

Find the

(i) mode

Answer (b)(i): ........................................ [1]

(ii) median

Answer (b)(ii): ........................................... [2]

(iii) mean

Answer (b)(iii): ....................................... [2]

5. Jeff wants to buy a house costing $458 000. He is required to pay 20% down payment to be eligible for the housing loan.

(a) How much does he need to pay for the down payment?

Answer (a): $ ....................... [2]

(b) He needs to pay monthly instalments of $3053 for 20 years. Calculate the total amount he pays for the house.

Answer (b): $ ....................... [2]
6. (a) 6 construction workers are needed to construct a concrete house in 6 days. How many days would 4 men take to construct the same house?

Answer (a): ………… days [2]

(b) Henry used 25 minutes to run a distance of 50 metres. Jacky used 40 minutes to run a distance of 70 metres. Who runs faster and state his speed in m/min?

Answer (b): …………, ………… m/min [3]

(c) Jacob went to Miri to buy a digital camera at a price of RM$1000. Given that the exchange rate was BND$100 to RM$245, how many Brunei dollars had he used to buy the camera?

Answer (c): BND$ ……………… [2]

7. (a) Given that the total surface area of a solid is the total area of the faces of the solid. The figure below shows the net of a cube with side 5 cm. Find the total surface area of the cube.

Answer (a): ……………… cm² [2]
(b) The figure below shows right-angled triangle ABCD.

(i) Find the length of x

Answer (b)(i): ......................... cm [2]

(ii) Find the length of y

Answer (b)(ii): ......................... cm [2]

(iii) Find $\angle x$

Answer (b)(iii): .........................° [2]

8. (a) Which is heavier, and by how much, a load of sand weighing $\frac{3}{4}$ tonnes or 25 bags of cement, each weighing 25 kg? Give your answer in kilograms.

Answer (a): ......................... is heavier, ......................... kg [2]
(b) Sally bought three books in a shop and paid with two $25 notes. The costs of the books were $8.99, $7.49 and 15.95 respectively. How much change did she get?

Answer (b): $………………………… [2]

(c) The table below shows the results when the seventh grade classes were asked whether they wanted chicken or pasta served at their award banquet.

<table>
<thead>
<tr>
<th>Banquet Preferences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room Number</td>
</tr>
<tr>
<td>201</td>
</tr>
<tr>
<td>202</td>
</tr>
<tr>
<td>203</td>
</tr>
</tbody>
</table>

(i) In Room 201, what is the ratio of the students who prefer chicken to students who prefer pasta?

Answer (c)(i): ………………………………… [1]

(ii) Combine the totals for all three rooms. What is the ratio of the students who prefer pasta to students who prefer chicken?

Answer (c)(ii): ………………………………… [2]
9. Use this timetable to answer the questions which follows:

| Swansea  | d | 0652 | - | - | - | 0732 | - | 0832 | - | - |
| Neath    | d | 0703 | - | - | - | 0743 | - | 0843 | - | - |
| Port Talbot Parkway | d | 0710 | - | - | - | 0750 | - | 0850 | - | - |
| Bridgend | d | 0720 | - | - | - | 0800 | - | 0900 | - | - |
| Cardiff Central | d | 0745 | - | - | - | 0825 | - | 0925 | - | - |
| Hereford | d | - | 0705 | - | - | - | - | 0821 | - | - |
| Newport  | d | 0759 | - | - | - | 0839 | - | 0939 | - | - |
| Weston-super-Mare | d | - | - | 0743 | - | - | - | - | - | - |
| Bristol Temple Meads | d | - | - | 0815 | - | - | 0915 | - | 1015 | 1045 |
| Bristol Parkway | d | 0820 | - | - | - | 0900 | - | 1000 | - | - |
| Bath Spa | d | - | - | 0827 | - | - | 0927 | - | 1027 | 1057 |
| Chippenham | d | - | - | 0838 | - | - | 0938 | - | 1038 | - |
| Cheltenham Spa | d | - | - | - | 0818 | - | - | - | - | - |
| Gloucester | d | - | - | - | 0830 | - | - | - | - | - |
| Stonehouse | d | - | - | - | 0841 | - | - | - | - | - |
| Stroud | d | - | - | - | 0847 | - | - | - | - | - |
| Kemble | d | - | - | - | - | 0902 | - | - | - | - |
| Swindon | d | 0847 | - | 0854 | 0919 | 0928 | 0954 | 1028 | 1054 | - |
| Didcot Parkway | a | - | - | - | - | 0945 | 1011 | - | 1111 | - |
| Oxford | a | - | 0856 | - | - | - | - | - | - | - |
| Reading | a | 0915 | 0949 | 0925 | 0945 | 1000 | 1025 | 1054 | 1126 | 1144 |
| London Paddington | a | 0946 | 0950 | 0956 | 1020 | 1033 | 1058 | 1130 | 1200 | 1215 |

a) Rex catches the 0900 at Bristol Parkway. At what time does he arrive in Bridgend?

Answer (a): ......................... [1]

b) Chloe wants to arrive in Reading by 1030. What is the latest train she should catch from Chippenham?

Answer (b): ......................... [1]

c) Nicholas arrives in Swindon at 0919. At what time did he leave Stonehouse?

Answer (c): ......................... [1]

d) Serene arrives at Bristol Temple Meads station at 0900. How long does she have to wait for a train to London?

Answer (d): ......................... [2]
10. Below shows the figure $ABCDEF$ where $\angle BAF$ and $\angle DCE$ are $90^\circ$. Given that the area of the square $BCEF$ is $25 \text{ cm}^2$.

(a) Find the length of $AF$

Answer (a): $\ldots \ldots \ldots \ldots \ldots \text{ cm} [2]$

(b) Find the length of $CD$

Answer (b): $\ldots \ldots \ldots \ldots \ldots \text{ cm} [2]$

(c) Find the perimeter of the figure $ABCDEF$

Answer (c): $\ldots \ldots \ldots \ldots \ldots \text{ cm} [2]$
11. The diagram shows a semicircle with an area of 308 cm$^2$.

(a) Find the radius of the semicircle.

Answer (a): ...................... cm$^2$ [2]

(b) Find the perimeter of the semicircle.

Answer (b): ...................... cm [2]
12. A shop sells food for birds.

Laura has $10 to spend on peanuts.

(a) How many bags of peanuts can she get for $10?

Answer (a): ...................... bags of peanuts [1]

(b) Amir has $20. He wants to buy a bird feeder and 4 bags of bird seed. How much more money does he need?

Answer (b): $ .......................... [2]
13. (a) Here is part of a number line.
Write the missing number in the boxes.

(b) \textit{ABCD} is a rectangle drawn on coordinate axes.
The sides of the rectangle are parallel to the axes.

What are the coordinates of \(D\) and \(E\)?

Answer (b): \(D = (\ldots\ldots\ldots\ldots, \ldots\ldots\ldots\ldots)\) [1]

\(E = (\ldots\ldots\ldots\ldots, \ldots\ldots\ldots\ldots)\) [1]
(c) Here are four labels.

| even | multiples of 9 | not even | not multiples of 9 |

Write each label in the correct position on the sorting diagram below.

(d) Shade $\frac{1}{5}$ of this shape.

14. (a) Complete the table below for the equation $x + 4y = 4$

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>2</th>
<th>4</th>
<th>6</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$y$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-1</td>
</tr>
</tbody>
</table>
(b) Draw the graph of the line $x + 4y = 4$ on the grid below.

(c) Solve graphically the solution of the simultaneous equations below:

\[
\begin{align*}
  x + 4y &= 4 \\
  x + y &= 7
\end{align*}
\]

Answer (c): $x = \ldots \ldots \ldots \ldots \ldots, y = \ldots \ldots \ldots [3]$
15. Given two points $A(8, -2)$ and $B(2, -10)$, find

(a) the mid-point of $AB$,

Answer (a): .................................. [1]

(b) the distance of $AB$

Answer (b): ................................. [2]

END OF PAPER