INSTRUCTIONS

1. When told to open this book, you should check that all questions are there. Look for the words ‘END OF PAPER’ after the last question.

2. All questions carry equal marks.

3. Answer all questions. You should use an HB pencil to mark all your answers on the Answer Sheet.

4. You should mark only ONE answer for each question. If you mark more than one answer, you will receive NO MARKS for that question.

5. Total Score of this paper II is 80 marks.

6. Calculator is not allowed to be used.

DO NOT TURN OVER THIS QUESTION BOOK UNTIL YOU ARE TOLD TO DO SO
1. Express the sentence ‘Add \( x \) to 5 and then subtract \( y \) from one-third of the result.’ by an algebraic expression.

   A. \( y - \frac{1}{3}(x + 5) \).  
   B. \( y - \frac{1}{3}x + 5 \).  
   C. \( \frac{1}{3}(x + 5) - y \).  
   D. \( \frac{1}{3}x + 5 - y \).

2. The cost price of a dress is $500 and the marked price is $1000. If it is sold at a discount of 20%, the profit % is

   A. 60%.  
   B. 50%.  
   C. 30%.  
   D. 20%.

3. \( 1 \text{ m}^3 = \)

   A. 10 000 000 cm\(^3\).  
   B. 1 000 000 cm\(^3\).  
   C. 10 000 cm\(^3\).  
   D. 100 cm\(^3\).

4. The height of a trapezium is 2 cm and the lower base is 16 cm long. If the area of the trapezium is 40 cm\(^2\), what is the length of its upper base?

   A. 2 cm.  
   B. 8 cm.  
   C. 12 cm.  
   D. 24 cm.

5. A rectangular block is 6 m long, 5 m wide and 3 m high. Find the total surface area of the block.

   A. 126 m\(^2\).  
   B. 90 m\(^2\).  
   C. 63 m\(^2\).  
   D. 180 m\(^2\).

6. A solid cube of side 8 cm is melted to form \( x \) small cubes of side 4 cm. What is \( x \)?

   A. 2.  
   B. 4.  
   C. 8.  
   D. 16.

7. The figure shows a solid of uniform cross-section in the shape of a letter L. Find the volume of the solid.

   A. 8 000 cm\(^3\).  
   B. 7 500 cm\(^3\).  
   C. 7000 cm\(^3\).  
   D. 6 000 cm\(^3\).
8. 300 000 cm$^3$ of water is poured into a rectangular tank. The dimensions of the water tank are 80 cm by 50 cm by 100 cm. Find the height of the water-level.

A. 5 cm.       B. 50 cm.       C. 7.5 cm.       D. 75 cm.

9. In the figure, find the coordinates of $G$.


10. Which of the following points does NOT lie on the $y$-axis?
M(0, a), N(0, −a), O(0, 0), P(−a, 0).

A. P only.       B. M and N.       C. O and P.       D. M, N and P.

11. Which three of the following points lie on the same horizontal line in a rectangular coordinate plane?
P(a, −b), Q(0, −b), R(0, 0), S(a, 0), T(0, a), U(−a, −b).

12. The figure shows a rectangle PQRS. Find the coordinates of Q.

A. \((-2, 3)\)  
B. \((1, -1)\)  
C. \((-1, 1)\)  
D. \((3, -2)\)

13. Refer to the figure in Question 12. Find the AREA of the rectangle PQRS.

A. 6 sq. units  
B. 7 sq. units  
C. 12 sq. units  
D. 14 sq. units

14. Given a point P\((-2, -2)\). If X is a point such that PX = 5 units, which of the following are NOT the possible coordinates of X?

A. \((-2, 7)\)  
B. \((3, -2)\)  
C. \((-2, 3)\)  
D. \((-7, -2)\)

15. If the polar coordinates of A and B are \((4, 30^\circ)\) and \((3, 120^\circ)\) respectively, find \(\angle AOB\).

A. 30°  
B. 90°  
C. 120°  
D. 150°

16. Which of the following letters does not have reflectional symmetry?

A. H  
B. O  
C. M  
D. N

17. If a figure repeats itself by rotating 72°, how many folds of rotational symmetry does the figure have?

A. 3-fold.  
B. 4-fold.  
C. 5-fold.  
D. 6-fold.

18. \(P'\) is the image of \(P\) after reflection. If the coordinates of \(P\) and \(P'\) are \((2, -2)\) and \((2, 4)\) respectively. Which line does \(P\) reflect along to get \(P'\)?

A. x-axis  
B. Straight line \(L\), \(L\) is parallel to x-axis and is 1 unit above the x-axis  
C. Straight line \(L\), \(L\) is parallel to x-axis and is 3 units below the x-axis.  
D. Straight line \(L\), \(L\) is parallel to x-axis and is 1 unit below the x-axis
19. \( A'(−5, 7) \) is the image of \( A(−4, 4) \) after transformation. Which of the following statements describes the transformation of \( A \)?

A. Move 1 unit to the right and 3 units downwards.
B. Move 1 unit to the right and 3 units upwards.
C. Move 1 unit to the left and 3 units downwards.
D. Move 1 unit to the left and 3 units upwards.

20. If \( A(−1, −2) \) rotates about the origin 0 by 90° in an anticlockwise direction to get an image \( A' \), find the coordinates of \( A' \).

A. \( (−2, 1) \).  
B. \( (−2, −1) \).  
C. \( (2, 1) \).  
D. \( (2, −1) \).

21. In the figure, \( AOB, COD \) and \( EOF \) are straight lines, \( \angle EOB = 90° \). Which of the following must be correct?

![Diagram](image)

A. \( x = y \).  
B. \( x = 45° \).  
C. \( x + y = 45° \).  
D. \( x + y = 90° \).

22. In the figure, \( AOB \) is a straight line. \( OE \) and \( OC \) are the angle bisectors of \( \angle AOD \) and \( \angle BOD \) respectively. Which of the following must be a right angle?

![Diagram](image)

A. \( \angle EOC \).  
B. \( \angle AOD \).  
C. \( \angle DOB \).  
D. \( \angle EOB \).
23. In the figure, $BCE$ and $ACD$ are straight lines and $AD \parallel EF$. Find $x$.

![Diagram](image)

A. $31^\circ$.  
B. $49^\circ$.  
C. $69^\circ$.  
D. $80^\circ$.

24. In the figure, $CD \parallel EF$ and $ACO$ and $OEB$ are straight lines. Find $x$.

![Diagram](image)

A. $57^\circ$.  
B. $47^\circ$.  
C. $37^\circ$.  
D. $27^\circ$.

25. The diagram below is not drawn to scale. If $AB \parallel CD$, which of the following is NOT always true?

![Diagram](image)

A. $b = h$.  
B. $d = e$.  
C. $c + f = 180^\circ$.  
D. $a + h = 180^\circ$. 

P.6
26. The diagram below is not drawn to scale. Which of the following is NOT a condition for \( \overline{AB} \parallel \overline{CD} \)?

\[ \begin{align*}
A. & \quad d = e. \\
B. & \quad d = f. \\
C. & \quad c = g. \\
D. & \quad c + f = 180^\circ.
\end{align*} \]

27. In the figure, \( \angle BAE + \angle B + \angle BCD + \angle D + \angle DEA = \)

\[ \begin{align*}
A. & \quad 180^\circ. \\
B. & \quad 360^\circ. \\
C. & \quad 540^\circ. \\
D. & \quad 720^\circ.
\end{align*} \]

28. In the figure, the condition for \( \triangle ABC \cong \triangle ADC \) is

\[ \begin{align*}
A. & \quad \text{RHS}. \\
B. & \quad \text{SSS}. \\
C. & \quad \text{AAA}. \\
D. & \quad \text{AAS}.
\end{align*} \]

29. If \( \triangle ABC \cong \triangle DEF \), \( BC = 3 \text{ cm}, AB = 4 \text{ cm} \) and \( AC = 5 \text{ cm} \), then \( EF = \)

\[ \begin{align*}
A. & \quad 5 \text{ cm}. \\
B. & \quad 4 \text{ cm}. \\
C. & \quad 3 \text{ cm}. \\
D. & \quad 2 \text{ cm}.
\end{align*} \]
30. The figure shows a triangle XYZ. Which of the following triangles is congruent to ∆XYZ?

A.  
B.  
C.  
D.  

31. Which of the following triangles is NOT congruent to the others?

A.  
B.  
C.  
D.  

32. If ∆ABC ∼ ∆DEF and AB = 3, BC = 4 and EF = 12, then DE =

A. 24.  
B. 16.  
C. 12.  
D. 9.

33. In the figure, the two triangles below are similar, the condition for similarity is

A. SAS.  
B. 3 sides proportion.  
C. AAA.  
D. ratio of 2 sides, inc. ∠.
34. Referring to the two triangles below, which of the following must be true?

\[ \triangle ABC \quad \triangle DEF \]

A. \( \angle A = \angle D. \)  
B. \( \angle B = \angle D. \)  
C. \( \angle C = \angle D. \)  
D. \( \angle C = \angle E. \)

35. The frequency distribution table shows the number of children in each flat of a certain building. How many flats are there in this building altogether?

<table>
<thead>
<tr>
<th>Number of children</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tally</td>
<td>/</td>
<td>/</td>
<td>//</td>
<td>///</td>
</tr>
</tbody>
</table>

A. 21.  
B. 20.  
C. 12.  
D. 6.

36. The following shows the average age of Hong Kong citizens from 1961 to 1996.

The average age of Hong Kong citizens from 1961 to 1996

Between which years did the average age increase most quickly?

37. According to the bar chart, How many pupils wear spectacles in Form 1?

Number of boys wearing spectacles in Form 1

<table>
<thead>
<tr>
<th>Class</th>
<th>Number of pupils</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>10</td>
</tr>
<tr>
<td>1B</td>
<td>15</td>
</tr>
<tr>
<td>1C</td>
<td>10</td>
</tr>
<tr>
<td>1D</td>
<td>5</td>
</tr>
<tr>
<td>1E</td>
<td>15</td>
</tr>
</tbody>
</table>


38. The pie chart shows the sales of tracksuits of different colours in a store. If the store sold 480 red tracksuits, how many green tracksuits were sold?


39. The stem-and-leaf diagram shows the examination marks of 40 students in F. 1A. Students with marks less than or equal to 20 will be given grade F. Find the percentage of students obtaining grade F?

<table>
<thead>
<tr>
<th>Stem (10 marks)</th>
<th>Leaves (1 mark)</th>
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<tbody>
<tr>
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<td>017</td>
</tr>
<tr>
<td>1</td>
<td>019</td>
</tr>
<tr>
<td>2</td>
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</tr>
<tr>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>00235</td>
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<tr>
<td>5</td>
<td>117799</td>
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<tr>
<td>6</td>
<td>223344459</td>
</tr>
<tr>
<td>7</td>
<td>56</td>
</tr>
<tr>
<td>8</td>
<td>79</td>
</tr>
<tr>
<td>9</td>
<td>129</td>
</tr>
</tbody>
</table>

A. 85%.  B. 82.5%.  C. 17.5%.  D. 15%.
40. The diagram below shows the monthly incomes and savings of Mr. Li in the past 10 months.

Incomes and savings of Mr. Li in the past 10 months

According to the above chart, what is the relationship between the monthly incomes and savings of Mr. Li?

A. The higher the income is, the lower is the savings.
B. The higher the income is, the higher is the savings.
C. Savings remains unchanged when income increases.
D. Incomes and savings are not related to each other.
ANSWERS

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OPTIONS

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<td>No. of questions</td>
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<td>10</td>
<td>10</td>
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