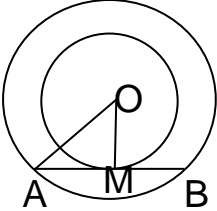


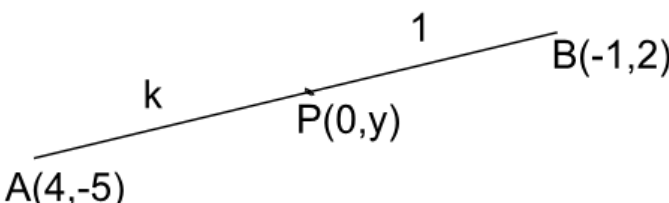
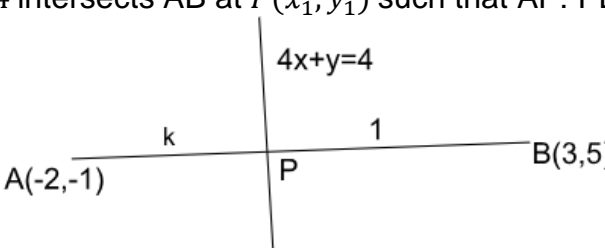
**Marking Scheme**  
**Class X Session 2024-25**  
**MATHEMATICS BASIC (Code No.241)**

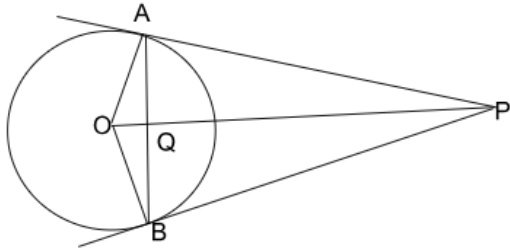
TIME: 3 hours

MAX.MARKS: 80

| Q. No. | Section A                                                                                                | Marks |
|--------|----------------------------------------------------------------------------------------------------------|-------|
| 1.     | B) 90                                                                                                    | 1     |
| 2.     | A) consistent with unique solution                                                                       | 1     |
| 3.     | D) 7                                                                                                     | 1     |
| 4.     | C) $2\sqrt{a^2 + b^2}$                                                                                   | 1     |
| 5.     | D) $145^\circ$                                                                                           | 1     |
| 6.     | B) 15 cm                                                                                                 | 1     |
| 7.     | A) $\frac{5}{4}$                                                                                         | 1     |
| 8.     | B) $\triangle EAD$                                                                                       | 1     |
| 9.     | C) 3780                                                                                                  | 1     |
| 10.    | B) 40                                                                                                    | 1     |
| 11.    | D) $52^\circ$                                                                                            | 1     |
| 12.    | B) 5 cm                                                                                                  | 1     |
| 13.    | A) $\cos 60^\circ$                                                                                       | 1     |
| 14.    | (C) $3\pi r^2$                                                                                           | 1     |
| 15.    | D) 4                                                                                                     | 1     |
| 16.    | B) real and equal                                                                                        | 1     |
| 17.    | C) 30 - 40                                                                                               | 1     |
| 18.    | D) $25x^2 - 5x - 2$                                                                                      | 1     |
| 19.    | A) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A) | 1     |
| 20.    | C) Assertion (A) is true but reason (R) is false.                                                        | 1     |
|        | <b>Section B</b>                                                                                         |       |

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                         |       |       |       |       |       |       |           |   |   |    |    |   |   |                 |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|-------|-------|-------|-------|-------|-------|-----------|---|---|----|----|---|---|-----------------|
| 21 (A).          | $PA^2 = PB^2$<br>$\Rightarrow (x - 4)^2 + (y - 3)^2 = (x - 3)^2 + (y - 4)^2$<br>$\Rightarrow x = y \text{ or } x - y = 0$                                                                                                                                                                                                                                                                                                   | 1<br>1                                  |       |       |       |       |       |       |           |   |   |    |    |   |   |                 |
| <b>OR</b>        |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                         |       |       |       |       |       |       |           |   |   |    |    |   |   |                 |
| 21 (B).          | $AB = 6 \text{ cm} = AC$<br><br>$OC = \sqrt{36 - 9} = 3\sqrt{3} \text{ cm}$<br>Point C is $(3\sqrt{3}, 0)$                                                                                                                                                                                                                                                                                                                  | 1/2<br><br>1<br>1/2                     |       |       |       |       |       |       |           |   |   |    |    |   |   |                 |
| 22.              | <div style="text-align: right;">Correct figure</div>  <p>AM = 4 cm</p> $OM = \sqrt{OA^2 - AM^2}$ $= \sqrt{5^2 - 4^2}$ $= 3 \text{ cm}$                                                                                                                                                                                                     | 1/2<br><br><br><br>1/2<br><br><br><br>1 |       |       |       |       |       |       |           |   |   |    |    |   |   |                 |
| 23 (A).          | $\frac{12}{2} [2 \times 20 + 11d] = 900$<br>$\Rightarrow d = 10$<br>Also $a_{12} = 20 + 11 \times 10 = 130$                                                                                                                                                                                                                                                                                                                 | 1/2<br>1<br>1/2                         |       |       |       |       |       |       |           |   |   |    |    |   |   |                 |
| <b>OR</b>        |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                         |       |       |       |       |       |       |           |   |   |    |    |   |   |                 |
| 23 (B).          | Putting $n = 1, S_1 = a = 6 - 1^2 = 5 \dots\dots\dots (i)$<br>Putting $n = 2, S_2 = 2a + d = 6 \times 2 - 2^2 = 8 \dots\dots\dots (ii)$<br>Solving (i) & (ii) $d = -2$                                                                                                                                                                                                                                                      | 1/2<br>1<br>1/2                         |       |       |       |       |       |       |           |   |   |    |    |   |   |                 |
| 24.              | $\sin(A - B) = \frac{1}{2} \Rightarrow A - B = 30^\circ \dots\dots\dots (i)$<br>$\cos(A + B) = \frac{1}{2} \Rightarrow A + B = 60^\circ \dots\dots\dots (ii)$<br>Solving (i) & (ii) to get $A = 45^\circ, B = 15^\circ$                                                                                                                                                                                                     | 1/2<br><br>1/2<br>1/2+1/2               |       |       |       |       |       |       |           |   |   |    |    |   |   |                 |
| 25.              | <table border="1" data-bbox="185 1671 1214 1805"> <tbody> <tr> <td>Class</td> <td>5-10</td> <td>10-15</td> <td>15-20</td> <td>20-25</td> <td>25-30</td> <td>30-35</td> </tr> <tr> <td>Frequency</td> <td>5</td> <td>6</td> <td>15</td> <td>10</td> <td>5</td> <td>4</td> </tr> </tbody> </table> <p>Modal class is 15-20.</p> $Mode = 15 + 5 \times \left( \frac{15-6}{2 \times 15-6-10} \right)$ $= 18.21(\text{approx.})$ | Class                                   | 5-10  | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 | Frequency | 5 | 6 | 15 | 10 | 5 | 4 | 1/2<br>1<br>1/2 |
| Class            | 5-10                                                                                                                                                                                                                                                                                                                                                                                                                        | 10-15                                   | 15-20 | 20-25 | 25-30 | 30-35 |       |       |           |   |   |    |    |   |   |                 |
| Frequency        | 5                                                                                                                                                                                                                                                                                                                                                                                                                           | 6                                       | 15    | 10    | 5     | 4     |       |       |           |   |   |    |    |   |   |                 |
| <b>Section-C</b> |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                         |       |       |       |       |       |       |           |   |   |    |    |   |   |                 |

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                          |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>26.</b></p>     | <p>Let <math>\sqrt{5}</math> be a rational number.<br/> <math>\therefore \sqrt{5} = \frac{p}{q}</math>, where <math>q \neq 0</math> and <math>p</math> &amp; <math>q</math> are coprime.<br/> <math>5q^2 = p^2 \Rightarrow p^2</math> is divisible by 5<br/> <math>\Rightarrow p</math> is divisible by 5----- (i)<br/> <math>\Rightarrow p = 3a</math>, where 'a' is a positive integer<br/> <math>25a^2 = 5q^2 \Rightarrow q^2 = 5a^2 \Rightarrow q^2</math> is divisible by 5<br/> <math>\Rightarrow q</math> is divisible by 5 ----- (ii)<br/>                     (i) and (ii) leads to contradiction as 'p' and 'q' are coprime.<br/> <math>\therefore \sqrt{5}</math> is an irrational number.</p> | <p><math>\frac{1}{2}</math><br/><br/><b>1</b><br/><br/><b>1</b><br/><math>\frac{1}{2}</math></p>                                         |
| <p><b>27(A).</b></p>  | <p>Let the required point on the y axis be <math>P(0,y)</math>.</p>  <p>Let AP : PB be <math>k : 1</math><br/>                     Therefore, <math>\frac{-k+4}{k+1} = 0</math><br/> <math>\Rightarrow k=4</math><br/>                     Therefore, required ratio is 4:1<br/>                     &amp; <math>y = \frac{8-5}{5} = \frac{3}{5}</math><br/>                     Hence point of intersection is <math>(0, \frac{3}{5})</math>.</p>                                                                                                                                                                      | <p><math>\frac{1}{2}</math><br/><br/><b>1</b><br/><math>\frac{1}{2}</math><br/><math>\frac{1}{2}</math><br/><math>\frac{1}{2}</math></p> |
| <b>OR</b>             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                          |
| <p><b>27 (B).</b></p> | <p>Let the line <math>4x + y = 4</math> intersects AB at <math>P(x_1, y_1)</math> such that AP: PB=<math>k</math>:1</p>  <p><math>x_1 = \frac{3k-2}{k+1}</math> and <math>y_1 = \frac{5k-1}{k+1}</math><br/> <math>(x_1, y_1)</math> lies on <math>4x + y = 4</math><br/>                     Therefore, <math>4\left(\frac{3k-2}{k+1}\right) + \left(\frac{5k-1}{k+1}\right) = 4</math><br/> <math>\Rightarrow k=1</math><br/>                     Required ratio is 1:1</p>                                                                                                                                         | <p><b>1</b><br/><br/><math>\frac{1}{2}</math><br/><b>1</b><br/><math>\frac{1}{2}</math></p>                                              |

| 28.     | $\begin{aligned} \text{LHS} &= \left(\frac{1}{\sin A} - \sin A\right)\left(\frac{1}{\cos A} - \cos A\right) \\ &= \frac{1 - \sin^2 A}{\sin A} \times \frac{1 - \cos^2 A}{\cos A} \\ &= \frac{\cos^2 A}{\sin A} \times \frac{\sin^2 A}{\cos A} \\ &= \cos A \sin A \\ \text{RHS} &= \frac{\cos A \sin A}{\sin^2 A + \cos^2 A} \\ &= \cos A \sin A = \text{LHS} \end{aligned}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | $\frac{1}{2}$<br>1<br>$\frac{1}{2}$<br>1 |                         |                 |                         |    |      |   |   |    |     |       |    |    |    |     |       |    |    |   |   |       |    |   |   |   |       |    |    |   |    |  |  |                 |  |                 |                                                           |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------|-----------------|-------------------------|----|------|---|---|----|-----|-------|----|----|----|-----|-------|----|----|---|---|-------|----|---|---|---|-------|----|----|---|----|--|--|-----------------|--|-----------------|-----------------------------------------------------------|
| 29.     | <table border="1" data-bbox="231 526 1252 1052"> <thead> <tr> <th>Class</th> <th>x</th> <th>frequency(f)</th> <th><math>u = \frac{x - 25}{10}</math></th> <th>fu</th> </tr> </thead> <tbody> <tr> <td>0-10</td> <td>5</td> <td>6</td> <td>-2</td> <td>-12</td> </tr> <tr> <td>10-20</td> <td>15</td> <td>10</td> <td>-1</td> <td>-10</td> </tr> <tr> <td>20-30</td> <td>25</td> <td>15</td> <td>0</td> <td>0</td> </tr> <tr> <td>30-40</td> <td>35</td> <td>9</td> <td>1</td> <td>9</td> </tr> <tr> <td>40-50</td> <td>45</td> <td>10</td> <td>2</td> <td>20</td> </tr> <tr> <td></td> <td></td> <td><math>\Sigma f = 50</math></td> <td></td> <td><math>\Sigma fu = 7</math></td> </tr> </tbody> </table> <p data-bbox="231 1086 558 1187"> <math display="block">\begin{aligned} \text{Mean} &amp;= 25 + 10 \times \left(\frac{7}{50}\right) \\ &amp;= 26.4 \end{aligned}</math> </p> | Class                                    | x                       | frequency(f)    | $u = \frac{x - 25}{10}$ | fu | 0-10 | 5 | 6 | -2 | -12 | 10-20 | 15 | 10 | -1 | -10 | 20-30 | 25 | 15 | 0 | 0 | 30-40 | 35 | 9 | 1 | 9 | 40-50 | 45 | 10 | 2 | 20 |  |  | $\Sigma f = 50$ |  | $\Sigma fu = 7$ | Correct table<br>$1\frac{1}{2}$<br><br>1<br>$\frac{1}{2}$ |
| Class   | x                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | frequency(f)                             | $u = \frac{x - 25}{10}$ | fu              |                         |    |      |   |   |    |     |       |    |    |    |     |       |    |    |   |   |       |    |   |   |   |       |    |    |   |    |  |  |                 |  |                 |                                                           |
| 0-10    | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 6                                        | -2                      | -12             |                         |    |      |   |   |    |     |       |    |    |    |     |       |    |    |   |   |       |    |   |   |   |       |    |    |   |    |  |  |                 |  |                 |                                                           |
| 10-20   | 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 10                                       | -1                      | -10             |                         |    |      |   |   |    |     |       |    |    |    |     |       |    |    |   |   |       |    |   |   |   |       |    |    |   |    |  |  |                 |  |                 |                                                           |
| 20-30   | 25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 15                                       | 0                       | 0               |                         |    |      |   |   |    |     |       |    |    |    |     |       |    |    |   |   |       |    |   |   |   |       |    |    |   |    |  |  |                 |  |                 |                                                           |
| 30-40   | 35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 9                                        | 1                       | 9               |                         |    |      |   |   |    |     |       |    |    |    |     |       |    |    |   |   |       |    |   |   |   |       |    |    |   |    |  |  |                 |  |                 |                                                           |
| 40-50   | 45                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 10                                       | 2                       | 20              |                         |    |      |   |   |    |     |       |    |    |    |     |       |    |    |   |   |       |    |   |   |   |       |    |    |   |    |  |  |                 |  |                 |                                                           |
|         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | $\Sigma f = 50$                          |                         | $\Sigma fu = 7$ |                         |    |      |   |   |    |     |       |    |    |    |     |       |    |    |   |   |       |    |   |   |   |       |    |    |   |    |  |  |                 |  |                 |                                                           |
| 30 (A). | <div style="text-align: center;">  </div> <p data-bbox="183 1512 638 1848">                     (i) <math>\triangle OAP \cong \triangle OBP</math><br/> <math>\angle APO = \angle BPO</math><br/>                     Or OP bisects <math>\angle P</math><br/>                     (ii) <math>\triangle AQP \cong \triangle BQP</math><br/> <math>\Rightarrow AQ = QB</math> and <math>\angle AQP = \angle BQP</math><br/>                     AB is a straight line<br/>                     therefore <math>\angle AQP = \angle BQP = 90^\circ</math><br/>                     Hence OP is right bisector of AB                 </p>                                                                                                                                                               | 1<br>1<br>1                              |                         |                 |                         |    |      |   |   |    |     |       |    |    |    |     |       |    |    |   |   |       |    |   |   |   |       |    |    |   |    |  |  |                 |  |                 |                                                           |
| OR      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                          |                         |                 |                         |    |      |   |   |    |     |       |    |    |    |     |       |    |    |   |   |       |    |   |   |   |       |    |    |   |    |  |  |                 |  |                 |                                                           |
| 30 (B). | Correct Given, to prove, figure and construction<br>Correct proof                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1<br>2                                   |                         |                 |                         |    |      |   |   |    |     |       |    |    |    |     |       |    |    |   |   |       |    |   |   |   |       |    |    |   |    |  |  |                 |  |                 |                                                           |



CBSE BOARD  
KA HO SAWAAL  
SAHI JAWAAB **OSWAAL**

# CBSE Board Exams SOLVED PAPERS

Click Here for Class-X Papers

**50%  
OFF**

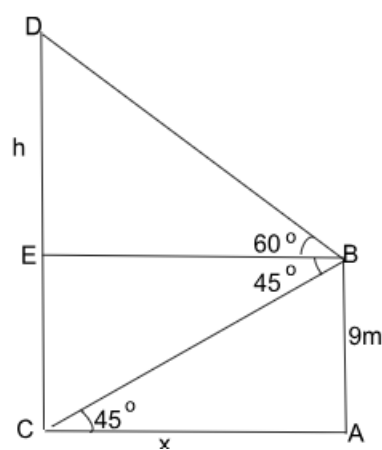
**amazon.in**



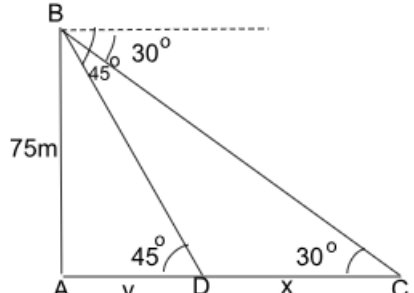
**CLICK BELOW LINK FOR DETAILS**

<https://cbseportal.com/go/cbse-class-10-solved-papers>

|                  |                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                    |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| 31.              | Let the two-digit number be $10x + y$<br>Therefore $(10x + y) + (10y + x) = 99$<br>$\Rightarrow x + y = 9$ .....(i)<br>Also, $x = 3 + y$ .....(ii)<br>Solving (i) & (ii) to get $y = 3, x = 6$<br>Therefore, required number is 63                                                                                                                                                                            | $\frac{1}{2}$<br>$\frac{1}{2}$<br>$\frac{1}{2}$<br>$\frac{1}{2}$<br>$\frac{1}{2}$<br>$\frac{1}{2}$ |
| <b>Section D</b> |                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                    |
| 32 (A).          | Let the number of books purchased be $x$<br>Therefore, cost price of 1 book = $\frac{1920}{x}$<br>Therefore $\frac{1920}{x} - \frac{1920}{x+4} = 24$<br>$\Rightarrow 1920 \times 4 = 24x(x + 4)$<br>or $x^2 + 4x - 320 = 0$<br>$\Rightarrow (x + 20)(x - 16) = 0$<br>$\Rightarrow x = 16, x \neq -20$<br>Number of books bought=16<br>Price of each book = $\frac{1920}{16} = ₹120$                           | 1<br>1<br>1<br>1<br>1                                                                              |
| <b>OR</b>        |                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                    |
| 32 (B).          | Let the initial average speed of the train be $x$ km/hr.<br>Therefore $\frac{132}{x} + \frac{140}{x+4} = 4$<br>$\Rightarrow 4x^2 - 256x - 528 = 0$<br>or $x^2 - 64x - 132 = 0$<br>$\Rightarrow (x - 66)(x + 2) = 0$<br>$\Rightarrow x = 66, x \neq -2$<br>Initial average speed of train= 66 km/hr<br><br>Time taken to cover the distances separately= $\frac{132}{66}$ & $\frac{140}{70}$ i.e. 2 hours each | 1<br>1<br>1<br>1<br>1                                                                              |
| 33.              | Correct Given, to prove, Construction and figure<br>Correct Proof                                                                                                                                                                                                                                                                                                                                             | $\frac{1}{2} \times 4 = 2$<br>3                                                                    |
| 34.              | (i) Perimeter of sector = $2r + \frac{2\pi r\theta}{360} = 73.12$<br>$\Rightarrow 2(24) + \frac{2 \times 3.14 \times 24 \times \theta}{360} = 73.12$<br>$\Rightarrow \theta = 60^\circ$<br>(ii) Area of minor segment = $\left( \frac{3.14 \times 24 \times 24 \times 60}{360} - \frac{1.73}{4} \times 24 \times 24 \right) \text{ cm}^2$<br>$= (301.44 - 249.12) \text{ cm}^2$<br>$= 52.32 \text{ cm}^2$     | 1<br>1<br>2<br>1                                                                                   |

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                     |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>35 (A).</b></p> |  <p>Let AB be the building and CD be the tower.<br/>         Here <math>\tan 60^\circ = \sqrt{3} = \frac{h}{x}</math><br/> <math>\Rightarrow h = x\sqrt{3} \dots \dots \dots (i)</math><br/> <math>\tan 45^\circ = \frac{9}{x} = 1</math><br/> <math>\Rightarrow x = 9 \text{ m} \dots \dots \dots (ii)</math> ( Distance between tower and building)</p> <p>Solving (i) &amp; (ii) to get <math>h = 9 \times 1.732 = 15.588\text{m}</math></p> <p>Therefore, the height of the tower = <math>h + 9 = 24.588 \text{ m}</math>.</p> | <p><b>1 mark for correct figure</b></p> <p>1<br/> <math>\frac{1}{2}</math><br/>         1<br/> <math>\frac{1}{2}</math><br/> <br/> <math>\frac{1}{2}</math><br/> <br/> <math>\frac{1}{2}</math></p> |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

OR

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                        |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>35 (B).</b></p> |  <p>Let AB be the light house and C &amp; D be positions of ships.<br/> <math>\tan 30^\circ = \frac{1}{\sqrt{3}} = \frac{75}{x+y}</math><br/> <math>\Rightarrow x + y = 75\sqrt{3} \dots \dots \dots (i)</math></p> <p><math>\tan 45^\circ = 1 = \frac{75}{y}</math><br/> <math>\Rightarrow y = 75 \dots \dots \dots (ii)</math></p> <p>Solving (i) &amp; (ii) to get <math>x = 75(\sqrt{3} - 1)</math><br/> <math>\Rightarrow x = 75 \times 0.732</math><br/> <math>= 54.9 \text{ m}</math></p> <p>Distance between the ships is <math>54.9 \text{ m}</math></p> | <p><b>1 mark for correct figure</b></p> <p>1<br/> <math>\frac{1}{2}</math><br/> <br/>         1<br/> <math>\frac{1}{2}</math><br/> <br/>         1</p> |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|

**Section E**

|                   |                                                                                                                                                                                                          |                                                               |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| <p><b>36.</b></p> | <p>(i) Number of students who do not prefer to walk = <math>200 - 120 = 80</math><br/>         P (selected student doesn't prefer to walk) = <math>\frac{80}{200}</math> or <math>\frac{2}{5}</math></p> | <p><math>\frac{1}{2}</math><br/> <math>\frac{1}{2}</math></p> |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|



|            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            | <p>(ii) Total number of students who prefer to walk or use bicycle = <math>120 + 50</math><br/> <math>= 170</math></p> <p>P (selected student prefers to walk or use bicycle) = <math>\frac{170}{200}</math> or <math>\frac{17}{20}</math></p> <p>(iii) (A) 50% of walking students who used bicycle = 60<br/>         Number of students who already use bicycle = 50<br/>         P (selected student uses bicycle) = <math>\frac{110}{200}</math> or <math>\frac{11}{20}</math></p> <p style="text-align: center;"><b>OR</b></p> <p>(B) Number of students who preferred to be dropped by car<br/> <math>= 200 - (120 + 50 + 20)</math><br/> <math>= 10</math> students</p> <p>P (selected student is dropped by car) = <math>\frac{10}{200}</math> or <math>\frac{1}{20}</math></p>                                                                                                                      | <p><math>\frac{1}{2}</math></p> <p><math>\frac{1}{2}</math></p> <p><math>\frac{1}{2}</math></p> <p><math>\frac{1}{2}</math></p> <p><b>1</b></p> <p><b>1</b></p> <p><b>1</b></p>                                                                                                                                                                                                                 |
| <b>37.</b> | <p>(i) 1 and 4</p> <p>(ii) <math>x = 5/2</math></p> <p>(iii) (A) At <math>x = 5/2</math>, <math>p(x) = 2.25</math><br/>         Therefore, <math>h = 0.10 + 2.25 = 2.35m</math></p> <p style="text-align: center;"><b>OR</b></p> <p>(B) <math>-x^2 + 5x - 4 = 2</math><br/> <math>x^2 - 5x + 6 = 0</math><br/> <math>(x - 2)(x - 3) = 0</math><br/> <math>\Rightarrow x = 2</math> and <math>x = 3</math><br/>         Therefore, required points are (2,0) and (3,0)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p><b>1</b></p> <p><b>1</b></p> <p><b>1</b></p> <p><b>1</b></p> <p><b>1/2</b></p> <p><b>1/2</b></p> <p><b>1/2</b></p> <p><b>1/2</b></p>                                                                                                                                                                                                                                                         |
| <b>38.</b> | <p>(i) <math>l^2 = (1.2)^2 + (0.5)^2</math><br/> <math>= 1.44 + 0.25</math><br/> <math>\Rightarrow l = \sqrt{1.69} = 1.3cm</math></p> <p>(ii) Curved surface area of sharpened part<br/> <math>= \pi \times 0.5 \times 1.3</math><br/> <math>= (0.65 \pi) cm^2</math></p> <p>(iii) (A) Total surface area of pencil<br/> <math>= \text{CSA of cylinder} + \text{CSA of cone} + \text{area of base circle}</math><br/> <math>= \pi \times 0.5 \times 0.5 \times 21 + 0.65 \pi + \pi \times (0.5)^2</math><br/> <math>= (5.25 + 0.65 + 0.25)\pi</math><br/> <math>= (6.15 \pi) cm^2</math></p> <p style="text-align: center;"><b>OR</b></p> <p>(B) Length of cylindrical part of shortened pencil<br/> <math>= (21 - 8.2) cm = 12.8 cm</math><br/>         So, volume of cylindrical part of shortened pencil<br/> <math>= \pi \times 0.5 \times 0.5 \times 12.8</math><br/> <math>= (3.2 \pi) cm^3</math></p> | <p><math>\frac{1}{2}</math></p> <p><math>\frac{1}{2}</math></p> <p><math>\frac{1}{2}</math></p> <p><math>\frac{1}{2}</math></p> <p><math>\frac{1}{2}</math></p> <p><math>\frac{1}{2}</math></p> <p><math>\frac{1}{2}</math></p> <p><math>\frac{1}{2}</math></p> <p><math>\frac{1}{2}</math></p> <p><b>1</b></p> <p><math>\frac{1}{2}</math></p> <p><b>1</b></p> <p><math>\frac{1}{2}</math></p> |





CBSE BOARD  
KA HO SAWAAL  
SAHI JAWAAB **OSWAAL**

# CBSE Board Exams SOLVED PAPERS

Click Here for Class-X Papers

**50%  
OFF**

**amazon.in**



**CLICK BELOW LINK FOR DETAILS**

<https://cbseportal.com/go/cbse-class-10-solved-papers>