

9th - CI-4M - Solution  
Section: A

1) (d)  $\sqrt{3} + 2x - x^2$

2) (b)  $x = 0$

3) (d) 7.5 cm

area of  $\square^{m} ABCD = DL \times AB = Bm \times AD.$

$\Rightarrow 10 \times 6 = 8 \times AD$

$\Rightarrow AD = \frac{10 \times 6}{8}$

$= \frac{15}{2}$

$\therefore AD = 7.5 \text{ cm}$

4) (c)  $AD < BC.$

$\rightarrow \angle B < \angle A$

$\Rightarrow OA < OB$

Adding (i) & (ii)

ALSO,  $\angle C < \angle D$

$OD < OE$

— (ii)

$OA + OD < OB + OE$

$AD < BC.$

5)  $7(a^3 + b^3) = 7[(a^3 + (2b)^3)]$   
 $= 7(a+2b)(a^2 - (a)(2b) + (2b)^2)$   
 $= 7(a+2b)(a^2 - 2ab + 4b^2)$

6)

$AC = BD$   
 $AB + BC = BC + CD$

$\therefore \boxed{AB = CD}$

"BC is same length."

$\rightarrow$  If, c is any interior point on  $\overline{AB}$  then,  
 $l(ACB) = l(AC) + l(cB).$



7)  $a=52, b=56, c=60$

$$s = \frac{1}{2}(a+b+c) = \frac{1}{2}(52+56+60) = \frac{168}{2} = 84 \text{ cm.}$$

$$\text{Area of triangle} = \sqrt{s(s-a)(s-b)(s-c)}$$

$$= \sqrt{84(84-52)(84-56)(84-60)}$$

$$= \sqrt{84 \times 32 \times 28 \times 24}$$

$$= \sqrt{7 \times 4 \times 3 \times 4 \times 7 \times 4 \times 2 \times 3 \times 4 \times 4 \times 2}$$

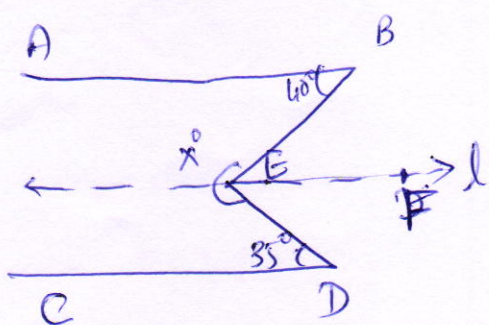
$$= \sqrt{7 \times 3 \times 4 \times 2}$$

$$= \sqrt{168 \times 2} = \sqrt{336}$$

$$= 7 \times 3 \times 4 \times 2$$

$$= 168 \text{ Sq. cm.}$$

8)



Given:  $AB \parallel CD$ .

Construction: a line  $l$ , parallel to both lines passing through  $E$ .

$\rightarrow AB \parallel l$  &  $BE$  is transversal  
 $\therefore \angle BEF = 40^\circ$  (alternate Int. angles)

$\rightarrow$  Similarly,  $FED = 35^\circ$ .

$\rightarrow \therefore \angle BED = 40^\circ + 35^\circ = 75^\circ$ .

$\rightarrow$  Now, Angle at a point is  $360^\circ$ .

$\therefore \angle x^\circ = \text{Reflex angle of } \angle BED$

$$= 360^\circ - 75^\circ$$

$$\therefore \angle x^\circ = 285^\circ$$