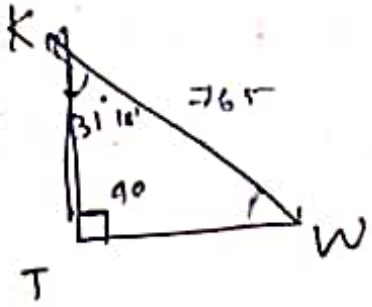
0 32'

6) (a) 

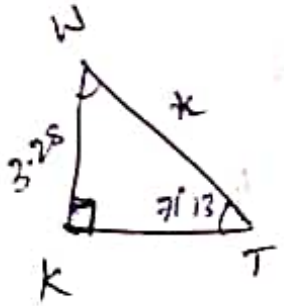



$$\frac{765}{\sin 90} = \frac{W}{\sin 58^\circ 43'}$$

$$765 \times 0.8545 = W$$

$$W = 653.6925\ m$$

653.6925 m

5) 

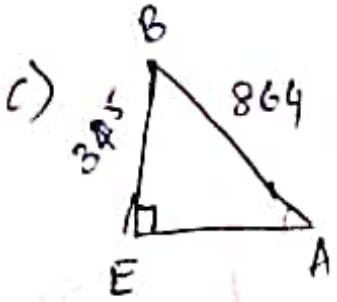

$$\frac{K}{\sin 90} = \frac{3.28}{\sin 71^\circ 13'}$$

$$= \frac{3.28}{0.9467}$$

$$K = 3.465\ m$$

90
71 13'

161 13

c) 


$$\frac{864}{\sin 90} = \frac{345}{\sin A}$$

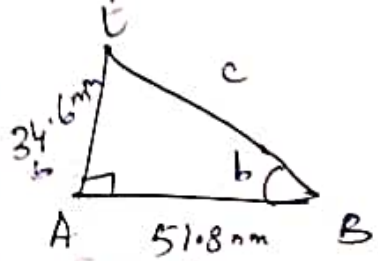
$$\sin A = \frac{345 \times \sin 90}{864}$$

$$\sin A = 0.3993055$$

$$A = \sin^{-1}(0.3993055) = 23.5348^\circ$$

$$\angle A = 23.5348^\circ$$

d)




$c^2 = a^2 + b^2 - 2ab\cos C$

$= (51.8)^2 + (34.6)^2 - 2(51.8)(34.6)\cos 90^\circ$

$= 2683.24 + 1197.16$

$c^2 = 3880.4$

$c = 62.293\ mm$

$\therefore \quad \frac{62.293}{\sin 90^\circ} = \frac{\sin B}{34.6}$

$62.293 \times 34.6 = \sin B$

$2155.3378 = \sin B$

$\sin^{-1}(2155.3378) = B$

$\frac{62.293}{\sin 90} = \frac{34.6}{\sin B}$

$\sin B = \frac{34.6}{62.293}$

$\sin B = 0.5554$

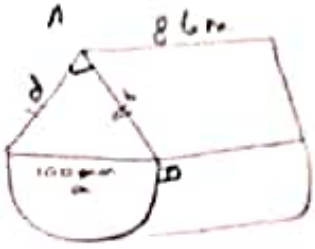
$B = 33.738^\circ$

$56.25$
$33.73$
$89.99$

$\frac{51.8}{62.293} = 0.8315$

$= 56.2531$

Q5) a) Length of AB mm is




$a^2 = b^2 + d^2$

$(100)^2 = 2b^2$ (as both sides equal)

$\frac{100^2}{2} = b^2$

$\frac{100 \times 100^{50}}{2} = b^2$

$5000 = b^2$

$b = \sqrt{5000} = 70.711$

**AB = 70.711 mm**

b) Area of $\Delta ABD$ in $mm^2$

$= \frac{1}{2} bh$

$= \frac{1}{2} \times 100 \times 70.711$

$= 3535.55\ mm^2$

c) Area of Semi Circle in $mm^2$

$= \frac{1}{2} \pi r^2$

$= \frac{1}{2} \times \frac{22}{7} \times (50)^2$

$= 3928.571\ mm^2$

d) volume of Prism = Base x Height

$= 353.555 \times 860$

$= 304057.3\ cm^3$

Converting into $cm^2$

$= 304057.3 \times 0.01$

$= 3040.573\ cm^2$

e) Surface area of Prism $= 2B + hP$

$= 2 \times \frac{1}{2} (0.1) \times (0.071)$

$+ 0.071 \times 0.24$

$= 0.00071 + 0.01711$

$= 0.0242 11$

$= 0.024 \, m^2$

Q·13. Solve Pronumerals

a) $0.3R - 0.06R^2 = 0$

$R(0.3 - 0.06R) = 0$

$0.3 - 0.06R = 0$

$0.3 = 0.06R$

$\frac{0.3}{0.06} = R$

$\boxed{R = 5}$

b) $y = x^2 - 12x + 27$ & $y = x + 5$

$x^2 - 12x + 27 = x + 5$

$x^2 - 12x + 27 - x - 5 = 0$

$x^2 - 13x + 22 = 0$

$(x - 11)(x - 2) = 0$

$\boxed{x = 11 \text{ or } 2}$

$+22$

$-11 \quad -2$