CHAPTER 8 TEST

Question 1.

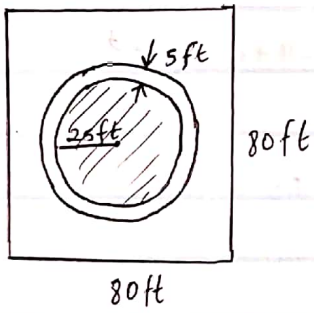
Area of the semi-circle $= \frac{1}{2} \pi \times \left(\frac{2.75}{2}\right)^2 = 2.9698 \text{ ft}^2$

Area of rectangle $= 2.75 \text{ ft} \times 4.5 \text{ ft} = 12.375 \text{ ft}^2$

Total area $= 12.375 + 2.9698$

$= 15.34 \text{ ft}^2$

Question 2



S.A of water $= \pi \times 25^2$

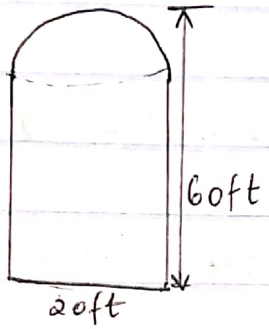
$= 1963.5 \text{ ft}^2$

Area of sidewalk $= \pi \times 30^2 - \pi \times 25^2$

$2827.4 - 1963.5$

$= 863.9 \text{ ft}^2$

Question 3



Height of cylindrical part = (60 - 20) ft

= 40 ft

Volume of the cylindrical section = $\pi \times 10^2 \times 40$

= 12566.37 ft^3

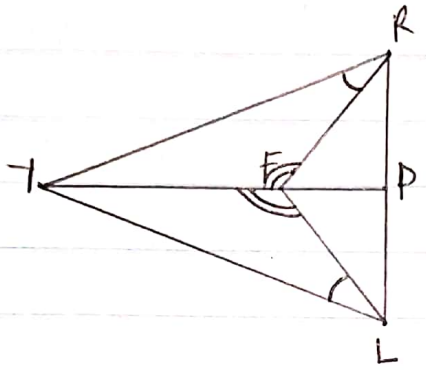
Volume of the hemisphirical part : $\frac{2}{3} \times \pi \times 10^3$

= 2094.40 ft^3

Total volume = 12566.37 + 2094.40

= 14660.77 ft^3

Question 4



$\angle YLF \cong \angle FRY$

$\angle RFY \cong \angle LFY$

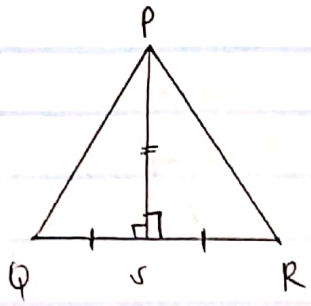
Prove $\Delta FRY \cong \Delta FLY$

ΔFRY and ΔFLY share side YF.

Applying the AAS rule which states that if two angles and a non-included side of one triangle are equal to two angles and a non-included side of another triangle, then the triangles are congruent.

Thus ΔFRY and ΔFLY are congruent by the AAS rule.

Question 4



Prove that $\Delta PQS \cong \Delta PRS$

ΔPQS and ΔPRS both share side PS.

line QS = line SR
$\angle PSQ = \angle PSR$

Using the SAS rule, $\Delta PQS \cong \Delta PRS$

Question 5

Euclid's fifth postulate

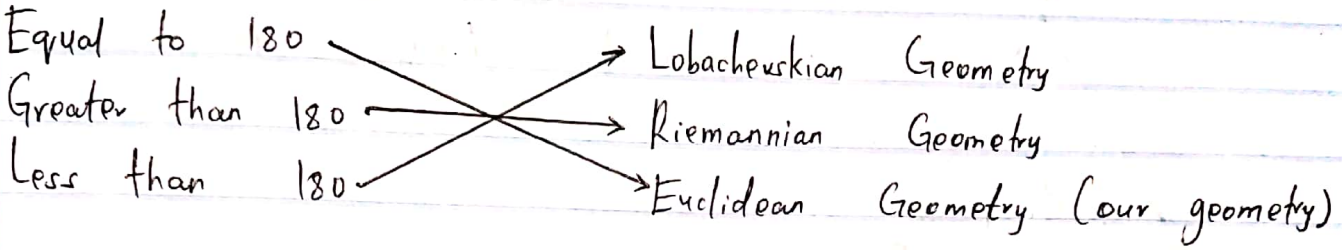
Question 6

Through a point not on a given line there is exactly one line parallel to the given line.

Question 8

There are no lines parallel to a given line

Question 9



Question 10

The idea of space existing with either a positive or negative curvature was not conceptualized.