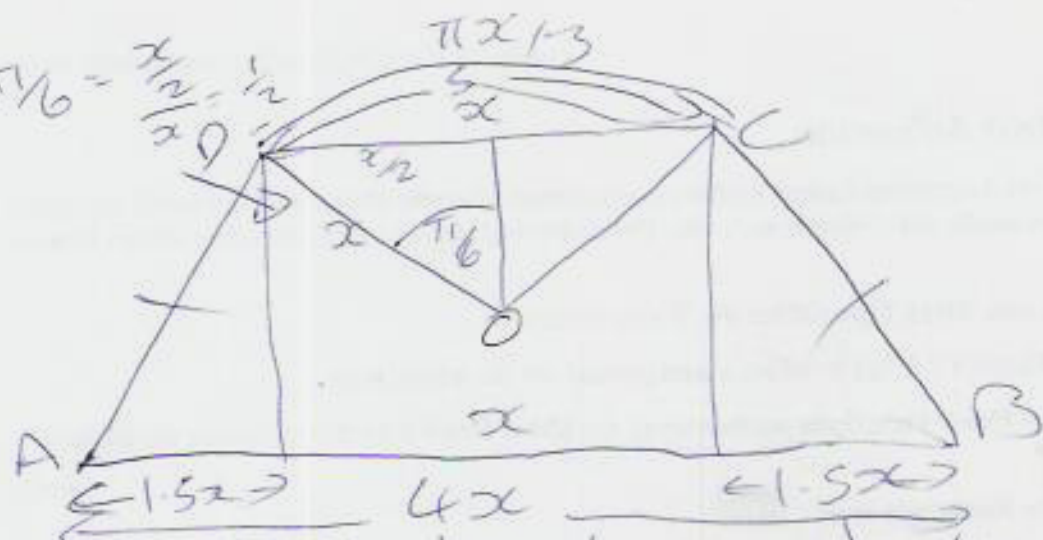


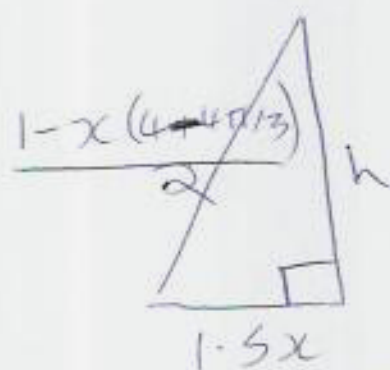
$$2a) \sin \pi/6 = \frac{x/2}{2} = \frac{1}{2}$$



$$P = |AB| + |BC| + |AD| = 4x$$

$$I = 4x + 2|BC| - 4\pi x/3$$

$$BC = \frac{I - 4x + 4\pi x/3}{2}$$



$$h = \sqrt{\left(\frac{1 - 4x(1 + \pi/3)}{2}\right)^2 + (1.5x)^2}$$

$$= \sqrt{\frac{1}{4} - 4x(1 + \pi/3) + 4x^2(1 + \pi/3)^2 - \frac{9x^2}{4}}$$

$$h = \sqrt{\frac{1}{4} - 4x(1 + \pi/3) + x^2\left(\frac{7}{16} + \frac{8\pi}{3} + \frac{4\pi^2}{9}\right)}$$

$$= \sqrt{0.25 + 19x - 3.55x^2}$$

$$= \sqrt{0.25 - 3.55(x^2 + 0.53x)}$$

$$= \sqrt{0.25 - 3.55((x + 0.0265)^2 - 0.0265^2)}$$

$$= \sqrt{0.25 + 3.55 \times 0.0265^2 - 3.55(x + 0.0265)^2}$$