1. Area of the patch $= \pi r^2$

$$= \frac{22}{7} \times \left(\frac{17.5}{20}\right)^2$$

$$= 2.406 \text{ cm}^2$$

2. Thickness of the patch $= \frac{\text{Volume of the patch}}{\text{Area of the patch}}$

Volume of the patch = Volume of one drop

Volume of one drop $= \frac{\text{Volume of 100 drops}}{100 \text{ drops}}$

$$= \frac{1.54 \text{ cm}^3}{100}$$

$$= 1.54 \times 10^{-2} \text{ cm}^3$$

Thickness of the patch $= \frac{1.54 \times 10^{-2} \text{ cm}^3}{2.406 \text{ cm}^2}$

$$= 6.4 \times 10^{-3} \text{ cm}$$

3. Thickness of the patch = size of oil molecule

$$= 6.4 \times 10^{-3} \text{ cm}.$$