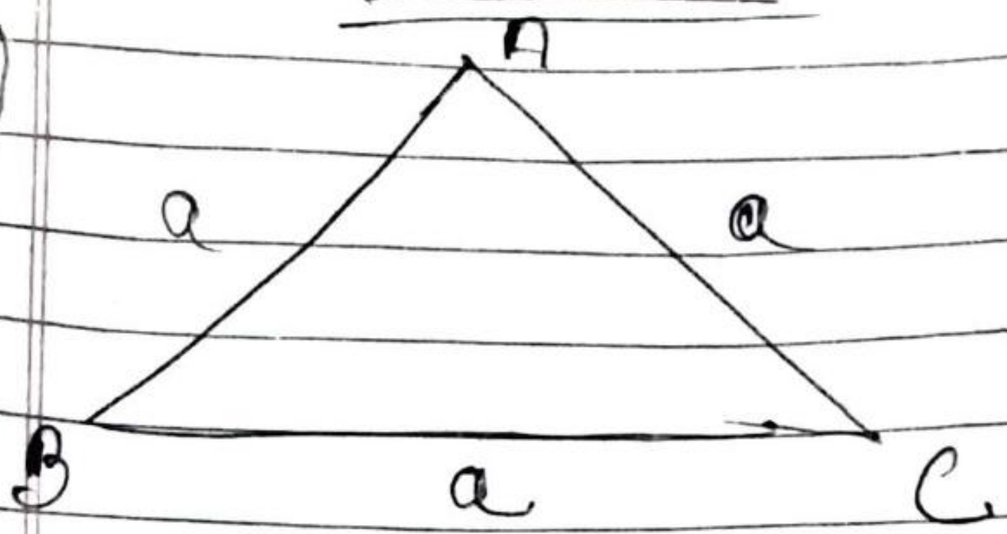
H.W
30/9/21

Date
Page

Worksheet

(1)



$$S = \frac{a+a+a}{2}$$

$$S = \frac{3a}{2}$$

$$\Rightarrow \sqrt{\frac{3a}{2}\left(\frac{3a}{2}-\frac{a}{1}\right)\left(\frac{3a}{2}-\frac{a}{1}\right)\left(\frac{3a}{2}-\frac{a}{1}\right)}$$

$$\Rightarrow \sqrt{\frac{3a}{2} \times \frac{3a\times 1 - a\times 2}{2} \times \frac{3a\times 1 - a\times 2}{2} \times \frac{3a\times 1 - a\times 2}{2}}$$

$$\Rightarrow \sqrt{\frac{3a}{2} \times \frac{a}{2} \times \frac{a}{2} \times \frac{a}{2}}$$

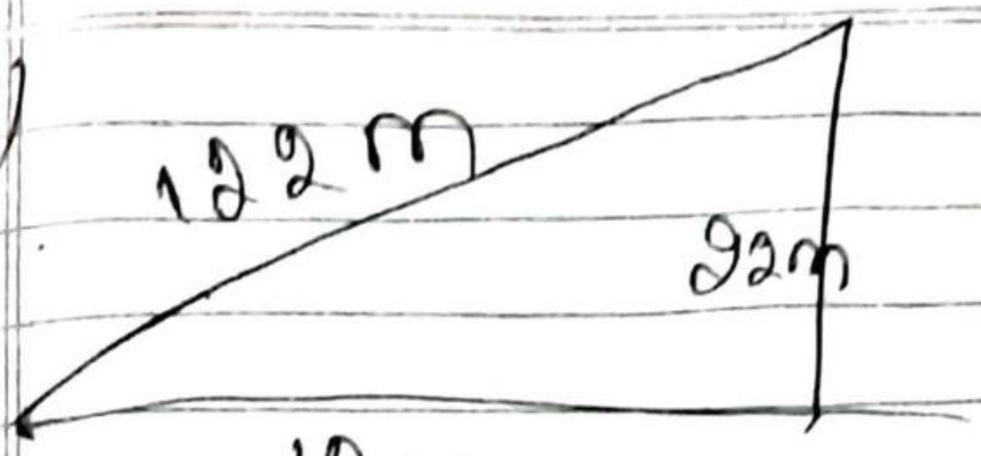
$$\Rightarrow \sqrt{3 \times \frac{a}{2} \times \frac{a}{2} \times \frac{a}{2} \times a}$$

$$\Rightarrow \sqrt{3 \times \frac{a}{2} \times \frac{a}{2}}$$

$$\Rightarrow \sqrt{3 \times \frac{a^2}{4}}$$

$$\Rightarrow \frac{\sqrt{3}}{4} a^2$$

(2)



$\Rightarrow S = \frac{122 + 120 + 22}{2}$

$\Rightarrow S = \frac{264}{2} 132$

$\Rightarrow \sqrt{132(132-122)(132-120)(132-22)}$

$\Rightarrow \sqrt{132 \times 10 \times 12 \times 110}$

$\Rightarrow \sqrt{2 \times 2 \times 3 \times 11 \times 2 \times 5 \times 2 \times 3 \times 2 \times 11 \times 2 \times 5}$

$\Rightarrow \sqrt{2 \times 3 \times 11 \times 2 \times 5 \times 2}$,

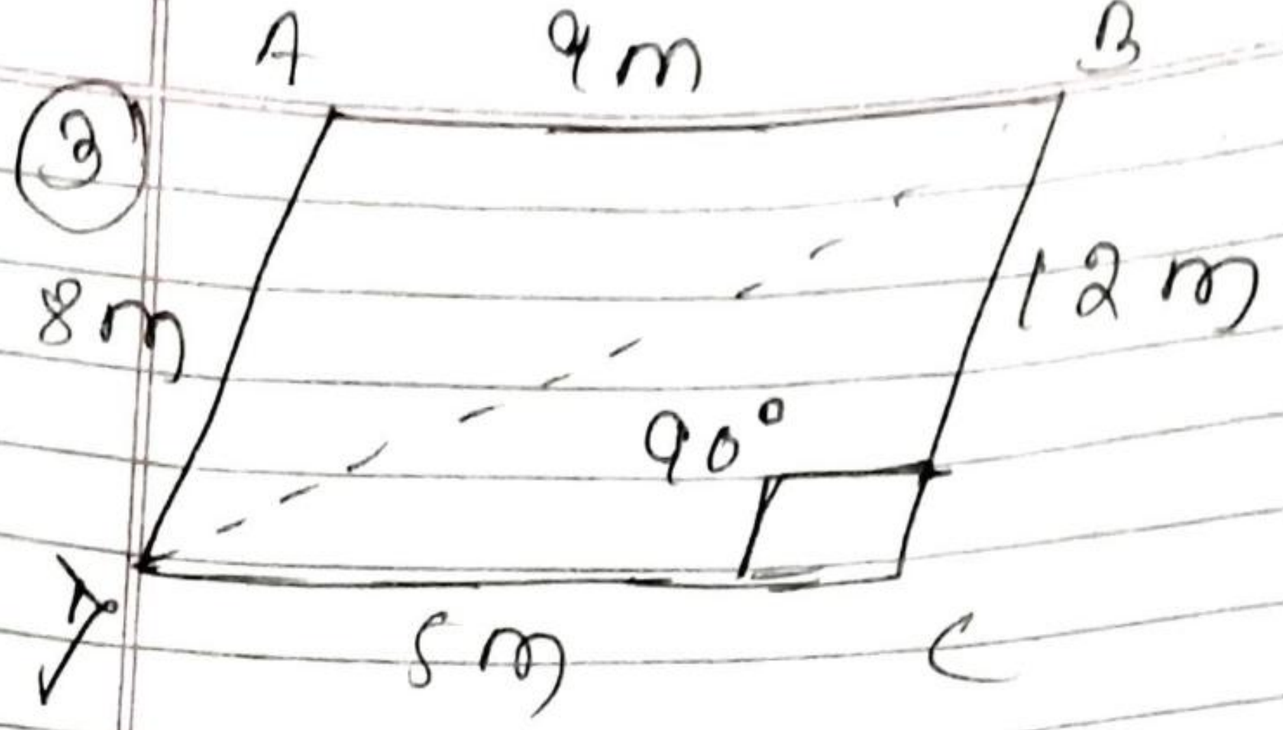
$\Rightarrow 1320 m^2$

$1 m^2 = 5000 l$

$1320 m^2 = 1320 \times 5000$

$= 66,00,000 l$

(3)



Let us draw a diagonal BD

Now $\triangle BCD$ is a right angled

$\Rightarrow BC^2 + CD^2 = BD^2$

$\Rightarrow 12^2 + 5^2 = x^2$

$\Rightarrow 144 + 25 = x^2$

$\Rightarrow 169 = x^2$

$\Rightarrow x^2 = 169$

$\Rightarrow x = \sqrt{169}$

$\Rightarrow x = 13$

Area of $\triangle BCD = \frac{1}{2} \times 12 \times 5 \Rightarrow 30 m^2$

Now area of $\triangle ABD = \frac{8+9+13}{2}$

$\Rightarrow \frac{30}{2} 15 m$

$\Rightarrow \sqrt{15(15-13)(15-9)(15-8}$

$\sqrt{15 \times 2 \times 6 \times 7}$

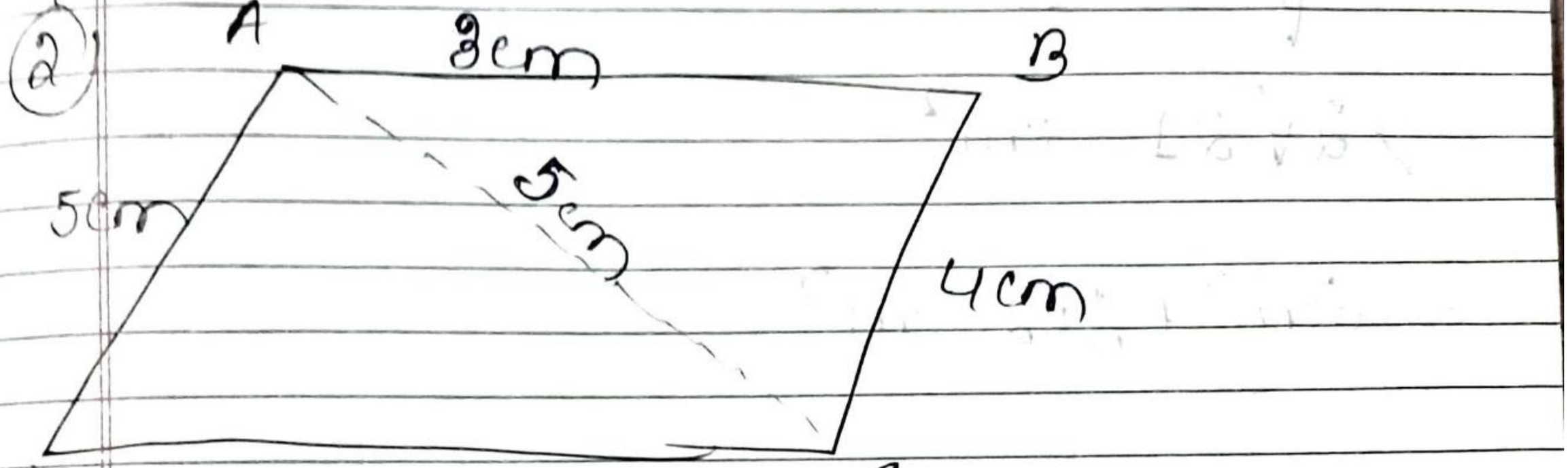
$\sqrt{3 \times 5 \times 2 \times 3 \times 2 \times 7}$

$3 \times 2 \sqrt{5 \times 7}$

$6\sqrt{35}\ m^2$

$30\ m^2 + 6\sqrt{35}\ m^2$

(2)



Area of $\Delta ABC = \frac{5+4+3}{2}$

$= \frac{12}{2}\ 6$

$\sqrt{6(6-5)(6-4)(6-3)}$

$\sqrt{6 \times 1 \times 2 \times 3}$

$\sqrt{3 \times 2 \times 2 \times 3} \Rightarrow 3 \times 2 \Rightarrow 6\ m^2$

Area of $\triangle ABC = \frac{5+5+4}{2}$

$\Rightarrow \frac{14}{2} 7\,cm$

$\Rightarrow \sqrt{7(7-5)(7-5)(7-4)}$

$\Rightarrow \sqrt{7 \times 2 \times 2 \times 3}$

$\Rightarrow \sqrt{7 \times 3 \times 2}$

$\Rightarrow 2\sqrt{21}\ cm^2$

$\Rightarrow 6cm^2 + 2\sqrt{21}\ cm^2$