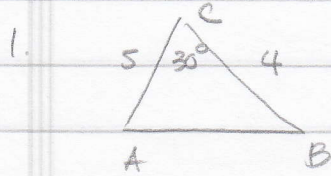
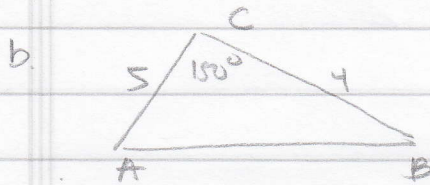


p342 WE

9-2



$$\begin{aligned} \text{Area} &= \frac{1}{2} (5)(4) \sin 30^\circ \\ &= \frac{1}{2} (5)(4) \frac{1}{2} = \boxed{5} \end{aligned}$$

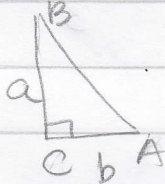


$$\begin{aligned} A &= \frac{1}{2} (5)(4) \sin 150^\circ \\ &= \frac{1}{2} (5)(4) \left(\frac{1}{2}\right) = \boxed{5} \end{aligned}$$

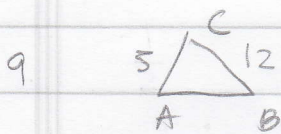
3. $A = \frac{1}{2} (6)(2) \sin 45^\circ = \frac{1}{2} (6)(2) \frac{\sqrt{2}}{2} = \boxed{3\sqrt{2}}$

b. $A = \frac{1}{2} (6)(2) \sin 135^\circ = \frac{1}{2} (6)(2) \frac{\sqrt{2}}{2} = \boxed{3\sqrt{2}}$

5. $\frac{1}{2} ab \sin 90^\circ = \frac{1}{2} ab$



7. $A = \frac{1}{2} (x)(y) \sin Z$
 $= \frac{1}{2} (16)(25) \sin 52^\circ \approx \boxed{158}$



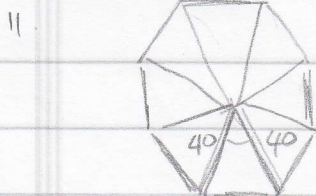
$$\frac{1}{2} (5)(12) \sin C = 15$$

$$30 \sin C = 15 \rightarrow \sin C = \frac{15}{30} = \frac{1}{2}$$

$$\text{Ref } C = \sin^{-1} \left(\frac{1}{2}\right) = 30^\circ$$

$\sin 15$ + in QI & QII

$$\text{QI: } C = \boxed{30^\circ} \quad \text{QII } C = 180^\circ - 30^\circ = \boxed{150^\circ}$$

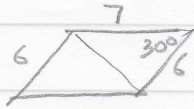


$$\text{central } C = \frac{360^\circ}{8} = 45^\circ$$

$$\begin{aligned} \text{Area } \Delta &= \frac{1}{2} (40)(40) \sin 45^\circ \\ &= \frac{1}{2} (40)(40) \frac{\sqrt{2}}{2} = 400\sqrt{2} \end{aligned}$$

$$\text{Area octagon: } 8 (400\sqrt{2}) = \boxed{3200\sqrt{2} \text{ cm}^2}$$

13

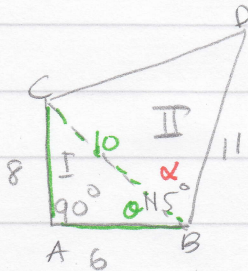


$$\text{Area } \Delta = \frac{1}{2} (7)(6) \sin 30^\circ$$

$$= \frac{1}{2} (7)(6) \frac{1}{2} = 10.5$$

$$\text{Area } \square = 2 (10.5) = \boxed{21 \text{ cm}^2}$$

19



$$\Delta \text{ I: } A = \frac{1}{2} (6)(8) = 24$$

$$\angle ABC = 90^\circ$$

$$\tan \theta = \frac{8}{6} \rightarrow \theta = \tan^{-1} \left(\frac{8}{6} \right) \approx 53.13010235^\circ$$

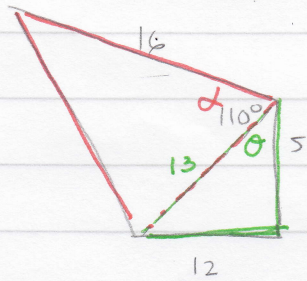
$$\angle CBD = 115^\circ - \tan^{-1} \left(\frac{8}{6} \right) \approx 61.86989765^\circ$$

$$BC = 10 \quad (6-8-10 \text{ rt } \Delta)$$

$$\Delta \text{ II: } A = \frac{1}{2} (10)(11) \sin 61.86989765^\circ \approx 49$$

$$\text{Area } ABCD = 49 + 24 = \boxed{73 \text{ u}^2}$$

20



$$A \Delta \text{ I: } \frac{1}{2} (12)(5) = 30$$

$$\tan \theta = \frac{12}{5}$$

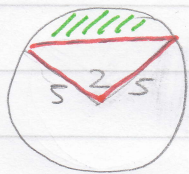
$$\theta = \tan^{-1} \left(\frac{12}{5} \right) \approx 67.38013505^\circ$$

$$\alpha = 110^\circ - 67.38013505^\circ \approx 42.61986495^\circ$$

$$A \Delta \text{ II} = \frac{1}{2} (16)(13) \sin 42.61986495^\circ \approx 70$$

$$\text{Area quadrilateral} = 70 + 30 = \boxed{100 \text{ u}^2}$$

21

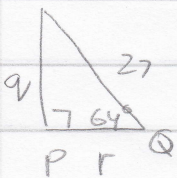


$$\text{Area of sector} = \frac{1}{2} r^2 \theta = \frac{1}{2} (5)^2 (2) = 25$$

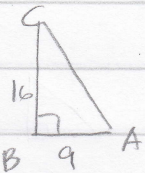
$$\text{Area of } \Delta = \frac{1}{2} (5)(5) \sin 2 = 11.4$$

$$\text{Area of segment} = 25 - 11.4 = \boxed{13.6}$$

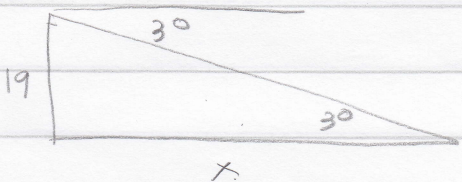
P334 WE

2.  $\frac{\sin 64^\circ}{1} = \frac{q}{27} \rightarrow q = 27 \sin 64^\circ \approx \boxed{24.3}$

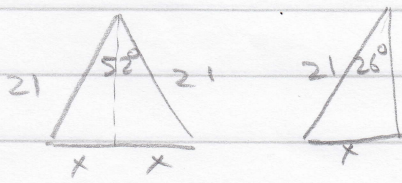
$\frac{\cos 64^\circ}{1} = \frac{r}{27} \rightarrow r = 27 \cos 64^\circ \approx \boxed{11.8}$

8.  $\tan A = \frac{16}{9} \rightarrow A = \tan^{-1} \left(\frac{16}{9} \right) \approx \boxed{60.6^\circ}$

$\angle C = 180^\circ - 90^\circ - 60.6^\circ = \boxed{29.4^\circ}$

14.  $\frac{\tan 3^\circ}{1} = \frac{19}{x} \rightarrow x \cdot \tan 3^\circ = 19$

$x = \frac{19}{\tan 3^\circ} \approx \boxed{363 \text{ m}}$

18.  $\frac{\sin 26^\circ}{1} = \frac{x}{21} \rightarrow x = 21 \sin 26^\circ \approx 9.21$

third side = $2(9.21) = \boxed{18.4 \text{ cm}}$