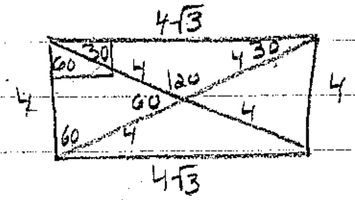
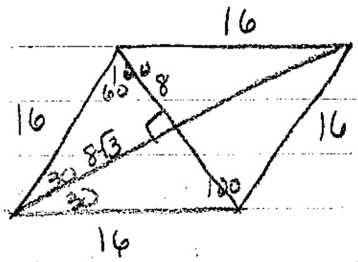
8.4

(28)



$4 \times 4\sqrt{3}$

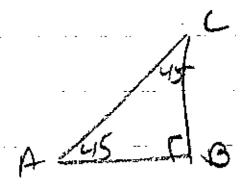
(29)



$16\sqrt{3} \times 16$

(30)

Given: $\triangle ABC$ is 45-45-90
Prove: $AC = \sqrt{2}\,AB$



1. $\triangle ABC$ is 45-45-90 $\rightarrow \triangle ABC$ is rt. $\triangle$	1. Given $\rightarrow$ def. rt. $\triangle$
2. $AC^2 = AB^2 + CB^2$	2. Pythag. Th.
3. $AB = CB$	3. conv. isosc. $\triangle$ Th.
4. $AC^2 = AB^2 + AB^2 = 2AB^2$	4. subst.
5. $AC = \sqrt{2AB^2} = \sqrt{2} \cdot AB$	5. Sq. root prop.

(32)

$GF = 22$
$DF = 22\sqrt{2}$
$FE = 11\sqrt{2}$
$DE = 11\sqrt{6}$

(33)

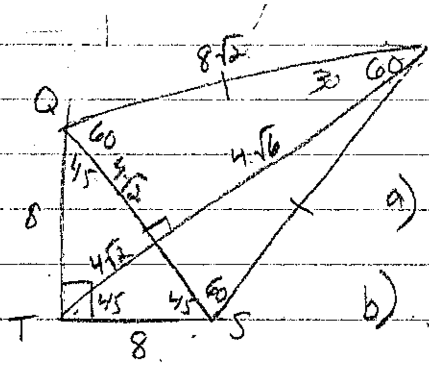
$GI = 6$
$HG = 6$
$HI = 6\sqrt{2}$
$JG = 6\sqrt{3}$

$JH^2 = 6^2 + (6\sqrt{3})^2$
$JH = \sqrt{144}$
$JH = 12$

(34)

$NL = 4\sqrt{2}$
$MN = 4\sqrt{2}$
$KL = 8\sqrt{2}$
$NK = 4\sqrt{6}$

35



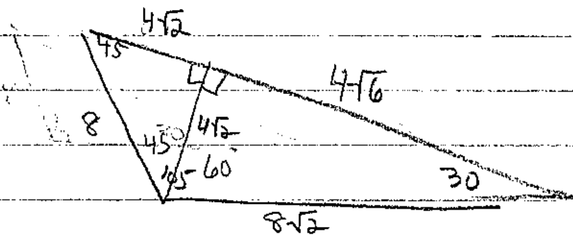
a) $\frac{8}{\sqrt{2}} = 4\sqrt{2} \cdot 2$

b) $\frac{4\sqrt{6} + 4\sqrt{2}}{8\sqrt{2}} = \frac{\sqrt{6} + \sqrt{2}}{2\sqrt{2}}$

$\frac{\sqrt{6}}{2\sqrt{2}} + \frac{\sqrt{2}}{2\sqrt{2}}$

$\frac{\sqrt{3}}{2} + \frac{1}{2} = \boxed{\frac{\sqrt{3}+1}{2}}$

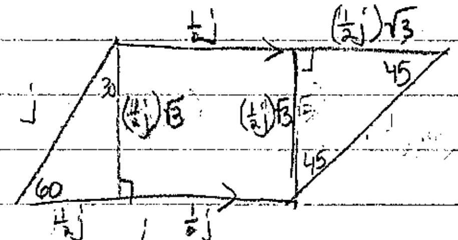
36



$P = 8 + 4\sqrt{2} + 4\sqrt{6} + 8\sqrt{2}$

$P = 8 + 12\sqrt{2} + 4\sqrt{6}$

37

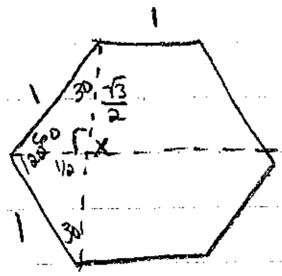


$\frac{\frac{1}{2}j + \left(\frac{1}{2}j\right)\sqrt{3} + j}{2}$

$\frac{\frac{j}{2} + \frac{\sqrt{3}j}{2} + \frac{2j}{2}}{2} \quad \frac{\frac{(3+\sqrt{3})j}{2}}{2}$

$\frac{(3+\sqrt{3})j}{4} = \boxed{\frac{3j + \sqrt{3}j}{4}}$

38



$$\frac{(6-2)180}{6} = 120$$

$$\frac{1}{2} \cdot \sqrt{3} = \frac{\sqrt{3}}{2} \cdot 2 = \boxed{\sqrt{3}}$$