3-5-14
Chapter 8 Review
(1) $\sin ^{-1} \sin \theta \stackrel{\sin }{ }_{=-1}^{3} \frac{2}{3}$
$\theta \approx 41.8^{\circ}$
(2) A right triangle has sides of 3,4 , and 5 .
what is the angle measurement between the 3 and 5 legs?


$$
\begin{gathered}
\cos \theta=\frac{3}{5} \quad \sin \theta=\frac{4}{5} \quad \tan \theta=\frac{4}{3} \\
x \quad l \\
\theta \approx 53.1^{\circ}
\end{gathered}
$$

Hard? from PT 1
(19)


$$
\begin{aligned}
\frac{\sin \theta}{14} & =\frac{\sin 52}{12} \\
\frac{12 \cdot \sin \theta}{12} & =\frac{14 \sin 52^{\circ}}{12} \\
\sin \theta & =.919 \ldots \\
\theta & \approx 66.83
\end{aligned}
$$

$$
A=\frac{1}{2} \cdot 14 \cdot 12 \cdot \sin 61.17 \sin ^{-1} \sin \theta \stackrel{\sin }{=} \cdot 919 \ldots
$$



$$
\begin{aligned}
\sin ^{-1} \sin \theta & =\frac{\sin ^{-1} 12}{18} \\
\theta & \approx 41.8^{\circ}
\end{aligned}
$$

(2)


$$
\begin{aligned}
& \frac{\tan 40^{\circ}}{1}=\frac{10}{x} \\
& \frac{x \cdot \tan 40^{\circ}}{\tan 40}=\frac{10}{\tan 40^{\circ}} \\
& x \approx 11.9
\end{aligned}
$$

(13)


$$
\begin{aligned}
& c^{2}=a^{2}+b^{2}-2 a b \cos \theta \\
& x^{2}=14^{2}+12^{2}-2 \cdot 14 \cdot 12 \cdot \cos 70^{\circ}
\end{aligned}
$$

$$
\sqrt{x^{2}} \approx \sqrt{225.08} \ldots
$$

$$
x \approx 15
$$

(15)


$$
\begin{aligned}
& \frac{\sin 52}{30}=\frac{\sin \theta}{27} \\
& \frac{30 \cdot \sin \theta \theta}{32}=\frac{27 \cdot \sin 52}{30} \\
& \sin ^{-1} \sin \theta \approx \sin ^{-1} \\
& \theta \approx 45 . .
\end{aligned}
$$

(18)


$$
18^{2}=20^{2}+30^{2}-2 \cdot 20 \cdot 30 \cdot \cos
$$

$$
324=400+900-1200 \cdot \cos \theta
$$

$$
324=1300-1200 \cdot \cos \theta
$$

$$
-1300-1300
$$

$$
\frac{-976}{-1200}=\frac{-1200 \cdot \cos \theta}{-1200}
$$

$$
\cos ^{-1}\left(\frac{976}{1200}\right)=\cos ^{-1} \cos \theta
$$

$$
35.6 \approx \theta
$$

Area of

$$
\begin{aligned}
18 \quad A & =\frac{1}{2} a b \sin C \\
& =\frac{1}{2} \cdot 18 \cdot 12 \cdot \sin 63 \\
& \approx 96.2
\end{aligned}
$$

Area of


$$
A=\sqrt{36 \cdot 16 \cdot 6 \cdot 14}
$$

$$
\approx 220
$$

3-5-14
Ch. 8 test
(1) $\sin ^{-1} \sin \theta \stackrel{\sin ^{-1}}{=} \frac{1}{8}$
$\theta \approx 7.2^{\circ}$
(2) Consider a rights that
has sides of 3,4, and 5 .
what is the angle measuring between the 3 and 5 leys?

(1)

$\sin ^{-1} \sin \theta=\sin ^{-1} \frac{13}{18}$
$\theta \approx 46.2^{\circ}$
(2)


$$
\begin{gathered}
\frac{\tan 40^{\circ}}{1}=\frac{10}{x} \\
\frac{x \cdot \tan 40}{\tan 40} \\
x \approx 11.9
\end{gathered}
$$

(13)


$$
\begin{aligned}
& c^{2}=a^{2}+b^{2}-2 a b c \cos \theta \\
& x^{2}=14^{2}+12^{2}-2 \cdot 14.12 \cdot \cos 68 \\
& x \approx 14.6
\end{aligned}
$$

(15)


$$
\begin{gathered}
\frac{\sin 52}{30}=\frac{\sin \theta}{24} \\
\frac{3 \theta \cdot \sin \theta}{30}=\frac{24 \cdot \sin 52}{30} \\
\sin ^{-1} \sin \theta \approx \sin ^{-1} 63640 \% . . \\
\theta \approx 39.1
\end{gathered}
$$

(18)


$$
c^{2}=a^{2}+b^{2}-2 a b \cos \theta
$$

$$
22^{2}=20^{2}+30^{2}-2 \cdot 20 \cdot 30 \cdot \cos \theta
$$

$$
484=400+900-1200 \cdot \cos \theta
$$

$$
484=1300-1200 \cdot \cos \theta
$$

$$
\begin{array}{ll}
-1300 & -1300 \\
\hline
\end{array}
$$

$$
\frac{-816}{-1200}=\frac{-1200 \cdot \cos \theta}{-1200}
$$

$$
\cos ^{-1} \frac{816}{1200}=\cos ^{-1} \cos \theta
$$

$$
47.2 \approx \theta
$$

Find area of figure 13
(13)

$$
\begin{aligned}
& A=\frac{1}{2} \cdot a \cdot b \cdot \sin C \\
&=\frac{1}{2} \cdot 14 \cdot 13 \cdot \sin 75^{\circ} \\
& \approx 87.9
\end{aligned}
$$

Area of figure 18
(18)


$$
S=\frac{66}{2}=33
$$

$$
\begin{aligned}
A & =\sqrt{33 \cdot(33-20)(33-30)(33-16)} \\
& \approx 147.9
\end{aligned}
$$

