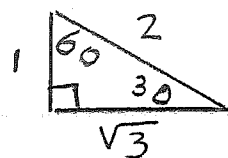
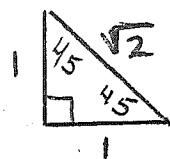


Ch. 9B Review



Special Right
← Triangles

$$\begin{aligned} \textcircled{1} \quad & \sin(30^\circ)\cos(45^\circ) \\ & \frac{1}{2} \cdot \frac{1}{\sqrt{2}} \\ & = \frac{1}{2\sqrt{2}} \left(\frac{\sqrt{2}}{\sqrt{2}} \right) = \boxed{\frac{\sqrt{2}}{4}} \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad & \tan^2(60^\circ) \\ & \frac{\sqrt{3}}{1} \cdot \frac{\sqrt{3}}{1} = \frac{3}{1} = \boxed{3} \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad & \sin^2(30^\circ) + \cos^2(30^\circ) \\ & \left(\frac{1}{2}\right)^2 + \left(\frac{\sqrt{3}}{2}\right)^2 \\ & = \frac{1}{4} + \frac{3}{4} = \boxed{1} \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad & 4\sin(60^\circ) + 2\tan(60^\circ) \\ & 4 \cdot \frac{\sqrt{3}}{2} + 2 \cdot \frac{\sqrt{3}}{1} \\ & = 2\sqrt{3} + 2\sqrt{3} = \boxed{4\sqrt{3}} \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad & \cos^2(30^\circ) + \sin^2(60^\circ) \\ & \left(\frac{\sqrt{3}}{2}\right)^2 + \left(\frac{\sqrt{3}}{2}\right)^2 \\ & = \frac{3}{4} + \frac{3}{4} = \frac{6}{4} = \boxed{\frac{3}{2}} \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad & \left(\frac{1}{1}\right)^2 + \left(\frac{1}{\sqrt{2}}\right)^2 \\ & = 1 + \frac{1}{2} = \boxed{\frac{3}{2}} \end{aligned}$$

$$\begin{aligned} \textcircled{7} \quad & \sin 25^\circ = \frac{x}{9} \\ & 9(\sin 25^\circ) = x \\ & 3.80 = x \end{aligned}$$

$$\begin{aligned} & \cos 25^\circ = \frac{y}{9} \\ & 9(\cos 25^\circ) = y \\ & 8.16 = y \end{aligned}$$

$$A = \frac{(7.60)(8.16)}{2}$$

$$\begin{aligned} P &= 9 + 9 + 7.60 \\ P &= \boxed{25.60 \text{ cm}} \end{aligned}$$

$$A = \boxed{31.01 \text{ cm}^2}$$

Using 30-60-90

$$\textcircled{8} \quad x = 5 \quad y = 5\sqrt{3} = 8.66$$

$$A = \frac{10 \cdot 8.66}{2}$$

$$P = 10 + 10 + 10$$

$$A = 43.30 \text{ cm}^2$$

$$P = 30 \text{ cm}$$

$$\textcircled{9} \quad \sin 36^\circ = \frac{x}{8}$$

$$4.70 = x$$

$$9.40 = 2x$$

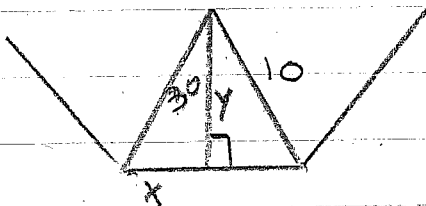
$$\cos 36^\circ = \frac{y}{8}$$

$$6.47 = y$$

$$A = \frac{1}{2}(6.47)(9.40 \cdot 5) \quad P = (9.40)(5)$$

$$A = 152.05 \text{ cm}^2 \quad P = 47.00 \text{ cm}$$

$\textcircled{10}$



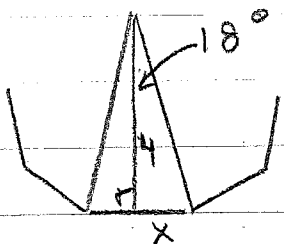
$$x = 5 \quad y = 8.66$$

$$P = 10 \cdot 6$$

$$A = \frac{1}{2}(8.66)(10 \cdot 6) \quad P = 60 \text{ cm}$$

$$A = 259.80 \text{ cm}^2$$

$\textcircled{11}$



$$\tan 18^\circ = \frac{x}{4}$$

$$1.30 = x$$

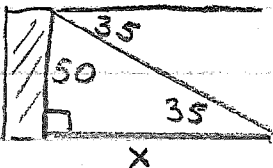
$$2.60 = 2x$$

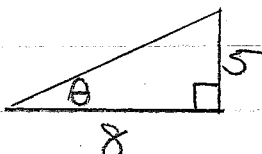
$$A = \frac{1}{2}(4)(2.60 \cdot 10)$$

$$A = 52.00 \text{ cm}^2$$

Using Special Triangles

⑫ $y = 6$ $x = 6\sqrt{3} = 10.39$ $2x = 20.78$
 $A = \frac{1}{2} (6) (20.78 \cdot 3)$
 $A = 187.06 \text{ cm}^2$

⑬  $\tan 35^\circ = \frac{50}{x}$
 $x = \frac{50}{\tan 35^\circ} = \boxed{71.41 \text{ feet}}$

⑭  $\tan \theta = \frac{5}{8}$
 $\theta = 32.0^\circ$

⑮  $\sin 50^\circ = \frac{h}{62}$
 $47.49 \text{ ft.} = h$

Option 1:

⑯ $\cos 72^\circ = \frac{5}{x}$
 $x = \frac{5}{\cos 72}$

$x = 16.18$

⑰ $\sin x = \frac{8}{11}$
 $x = 46.7^\circ$

⑱ $\tan 28^\circ = \frac{5}{x}$
 $x = \frac{5}{\tan 28^\circ}$
 $x = 9.40$

⑲ $\sin 65^\circ = \frac{13}{x}$
 $x = \frac{13}{\sin 65^\circ}$
 $x = 14.34$

⑳ $\tan x = \frac{3}{4}$
 $x = 36.9^\circ$

㉑ $\sin x = \frac{11}{15}$
 $x = 47.2^\circ$

Option 2:
Trig Equations

$$\begin{aligned} \textcircled{22} \quad 3 + 5 \sin(A) &= 4 \\ 5 \sin(A) &= 1 \\ \sin(A) &= \frac{1}{5} \end{aligned}$$

$$A = 11.5^\circ$$

$$\begin{aligned} \textcircled{23} \quad -2 + 8 \cos(A) &= 1 \\ 8 \cos(A) &= 3 \\ \cos(A) &= \frac{3}{8} \end{aligned}$$

$$A = 68.0^\circ$$

$$\begin{aligned} \textcircled{24} \quad \tan(2A) &= 1.85 \\ (2A) &= \tan^{-1}(1.85) \\ 2A &= 61.6 \\ A &= 30.8 \end{aligned}$$

$$\begin{aligned} \textcircled{25} \quad 3 \sin(2A - 10) &= 2 \\ \sin(2A - 10) &= \frac{2}{3} \\ 2A - 10 &= \sin^{-1}\left(\frac{2}{3}\right) \\ 2A - 10 &= 41.8 \\ 2A &= 51.8 \\ A &= 25.9 \end{aligned}$$

$$\begin{aligned} \textcircled{26} \quad 2 + 5 \tan(A) &= 8 \\ 5 \tan(A) &= 6 \\ \tan(A) &= \frac{6}{5} \\ A &= 50.2^\circ \end{aligned}$$

$$\begin{aligned} \textcircled{27} \quad 2 + 10 \cos(A + 12) &= 13 \\ 10 \cos(A + 12) &= 11 \\ \cos(A + 12) &= \frac{11}{10} \\ A + 12 &= \cos^{-1}\left(\frac{11}{10}\right) \end{aligned}$$

No Solution.

sin and cos can not
be greater than one.