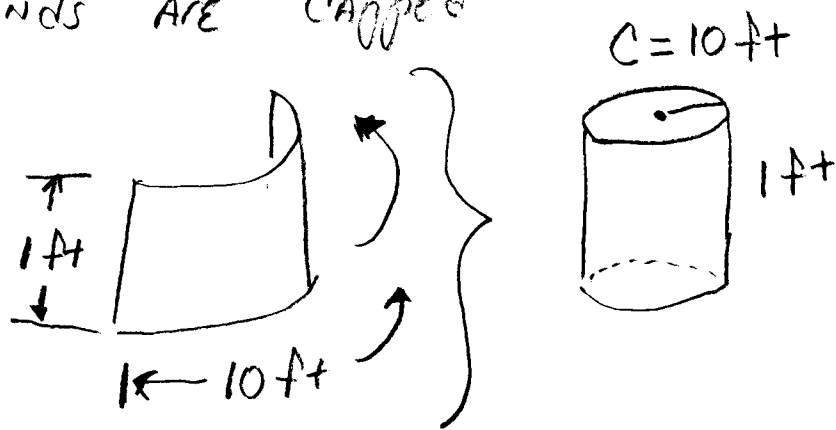


BE - Geometry I - Monday 11-15-10

- ① A rectangular sheet $10ft$ by $1ft$ is rolled into a cylinder and the ends are capped

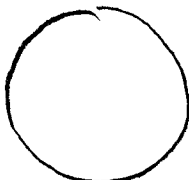


WHAT IS THE SURFACE AREA OF THE "CAPPED" CYLINDER? (EXACT ANSWER)

ANS


 $1ft$ Area = $10ft^2$
 $10ft$

S.A. Cylinder
 $2\pi rh + 2\pi r^2$
 BACK OF BOOK


 $C = 2\pi r$
 $r = \frac{C}{2\pi} = \frac{10}{2\pi} = \frac{5}{\pi}$

$A = \pi r^2$
 $A = \pi \left(\frac{5}{\pi}\right)^2$
 $= \pi \left(\frac{25}{\pi^2}\right)$
 $= \frac{25ft^2}{\pi}$

$ENDS = 2 \cdot \frac{25}{\pi} = \frac{50ft^2}{\pi}$

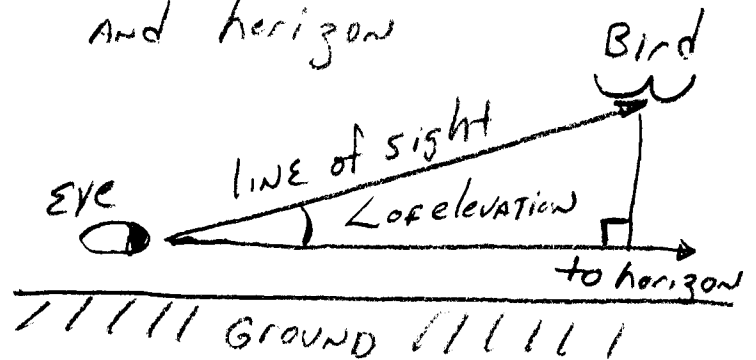
Side =

$\frac{50}{\pi} + \frac{10 \cdot \pi}{1 \cdot \pi} = \frac{50 + 10\pi}{\pi} ft^2$

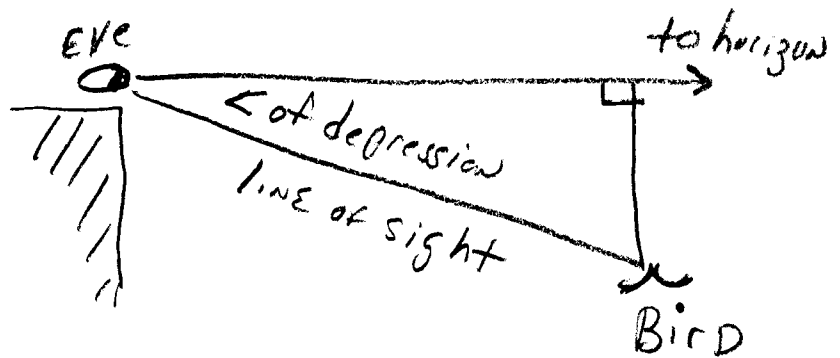
Ch 7-5 Angles of Elevation AND Depression (Looking up) (Looking Down)

Angle of Elevation
(Looking Up)

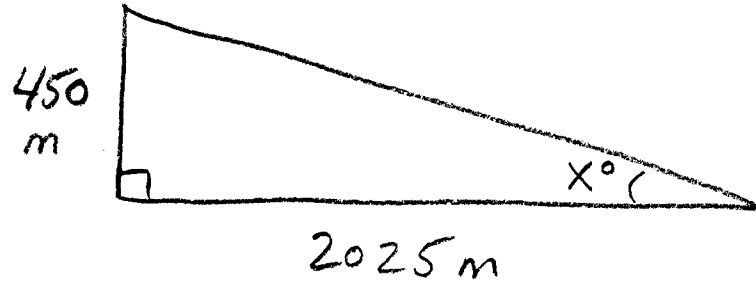
Angle between "line of sight"
and horizon



Angle of Depression
(Looking Down)



Ex 1
Pg 371



Find X to nearest degree (using trig table)

$$\tan X^\circ = \frac{450}{2025} = \frac{90}{405} = \frac{18}{81} = \frac{2}{9}$$

$$\therefore \tan X^\circ = \frac{2}{9}$$

$$\tan^{-1}\left(\frac{2}{9}\right) = X^\circ$$

$$\tan^{-1}(0.2\bar{2}) = X^\circ$$

$$\therefore \boxed{X \sim 13^\circ}$$

NOTE:

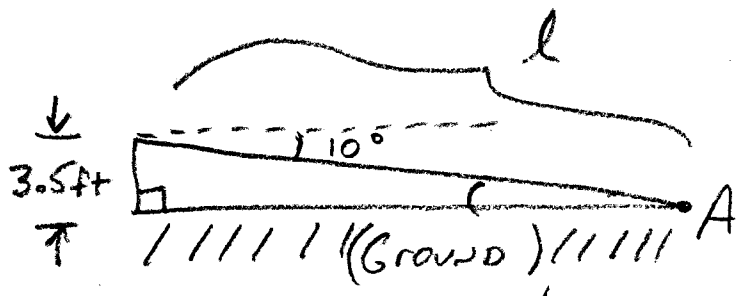
$$\tan 12^\circ = \frac{2222}{196}$$

$$\tan 13^\circ = \frac{2309}{87}$$

0.2222

↙ closer to 13°

EX 2
PG 372



Does $\angle A = 10^\circ$? How do you know?
 Find l to nearest tenth of a ft.

$$\sin 10^\circ = \frac{3.5}{l}$$

$$(.1736) = \frac{3.5}{l}$$

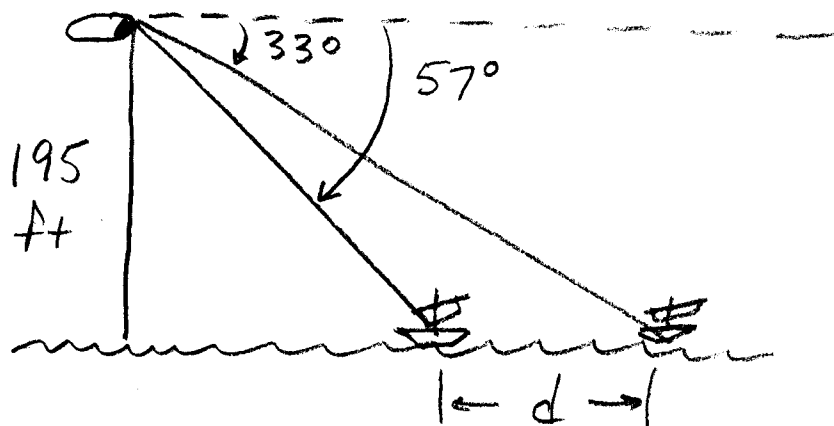
$$\frac{l (.1736)}{.1736} = \frac{3.5}{.1736}$$

Calc. OK for
this last step

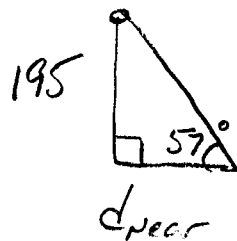
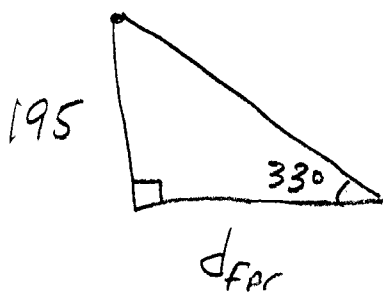
$$l = 20.16$$

$$\boxed{l = 20.2 \text{ ft}}$$

Ex 3
Pg 372



Find d = distance between the 2 boats to nearest ft.



$$\tan 33^\circ = \frac{195}{d_{far}}$$

$$d_{far} (0.6494) = 195$$

$$d_{far} = \frac{195}{0.6494} = 300.28$$

$$\tan 57^\circ = \frac{195}{d_{near}}$$

$$d_{near} (1.5399) = 195$$

$$d_{near} = \frac{195}{1.5399} = 126.63$$

$$d = d_{far} - d_{near} = 300.28 - 126.63$$

$$173.65 = \boxed{174 \text{ ft}}$$

Homework: Pg 373 # 1-7.