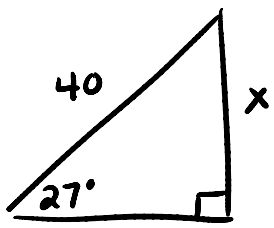
Sec 9.10
pgs. 425 - 427
#2 - 4, 6 - 11, 15

#2 a. ≈ 24
b ≈ 74
c. ≈ 45

#3 a. 45
b. 30
c. 60

#4 a.

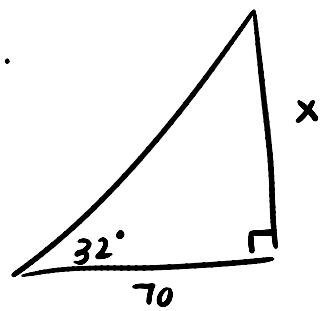


$\sin 27 = \frac{x}{40}$

$x = 40 \sin 27$

$\boxed{x \approx 18}$

b.

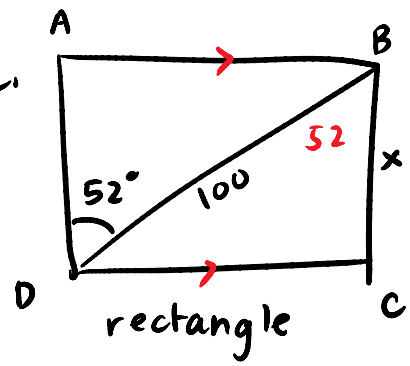


$\tan 32 = \frac{x}{70}$

$x = 70 \tan 32$

$\boxed{x \approx 44}$

c.

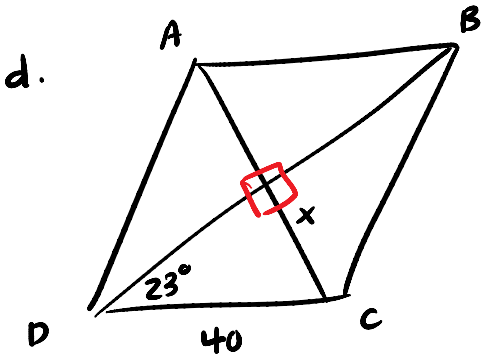


$\cos 52 = \frac{x}{100}$

$x = 100 \cos 52$

$\boxed{x \approx 62}$

d.



$\sin 23 = \frac{x}{40}$

$x = 40 \sin 23$

$\boxed{x \approx 16}$

#6 Solve

a. $\sin 25° = \frac{x}{40}$

$x = 40\sin 25$

$\boxed{x \approx 17}$

b. $\cos 73 = \frac{35}{x}$

$x \cos 73 = 35$

$x = \frac{35}{\cos 73}$

$\boxed{x \approx 120}$

c. $\sin x = \frac{29}{30}$

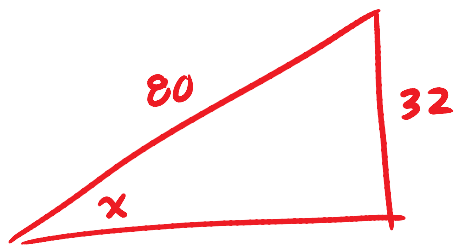
$30 \sin x = 29$

$\sin x = \frac{29}{30}$

$x = \sin^{-1}\left(\frac{29}{30}\right)$

$\boxed{x \approx 75}$

#7 A department store escalator is 80ft long. IF it rises 32ft vertically, find the angle it makes with the floor.



$\sin x = \frac{32}{80}$

$x = \sin^{-1}\left(\frac{32}{80}\right)$

$\boxed{x \approx 24°}$

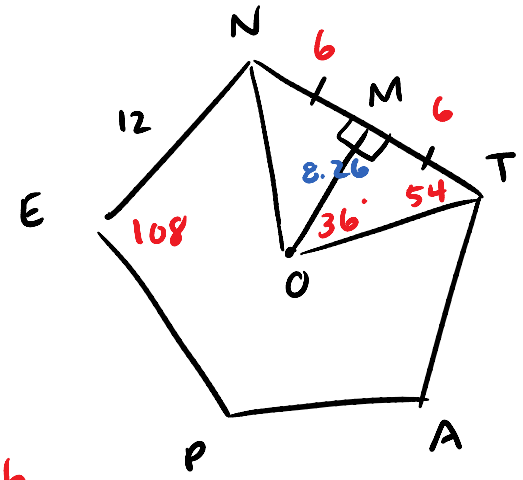
#8 a. Find $m\angle E = \boxed{108°}$

b. Find $m\angle NOM = \boxed{36°}$

c. Find OM $\tan 54 = \frac{OM}{6}$

$OM = 6\tan 54$

$\boxed{OM \approx 8.26}$



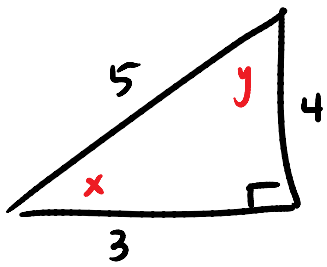
d. Find area of ΔNOT $A = \frac{bh}{2}$

$A = \frac{12(8.26)}{2}$

$\boxed{A = 49.56}$

e. Area of Pentagon 49.56×5 (because 5 $\cong$ triangles)

#9



Find x's

$\tan x = \frac{4}{3}$

$x = \tan^{-1}\left(\frac{4}{3}\right)$

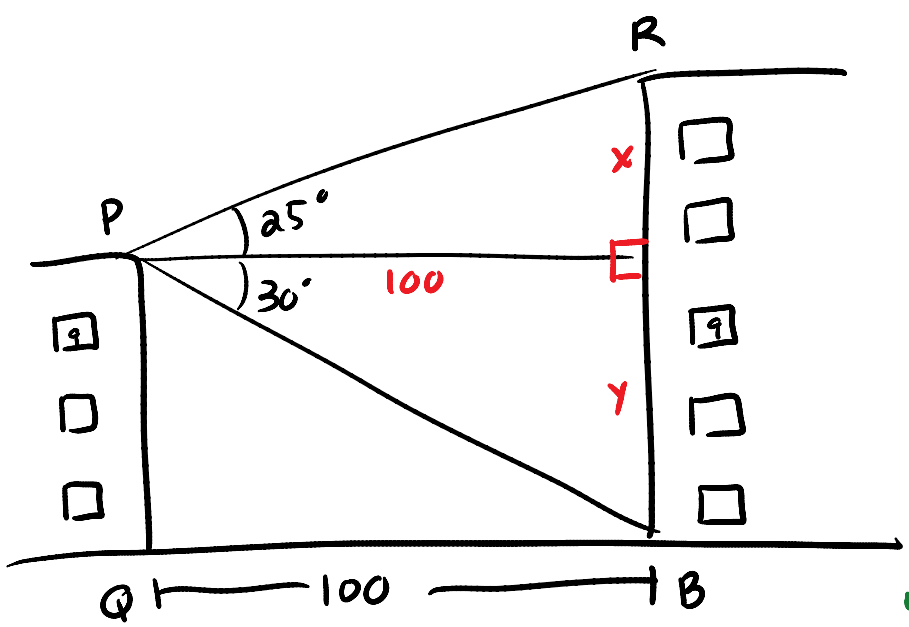
$x = 53.1$

$\sin y = \frac{3}{5}$

$y = \sin^{-1}\left(\frac{3}{5}\right)$

$y \approx 37$

#15



$\tan 25 = \frac{x}{100}$

$x = 100 \tan 25$

$x = 46.6$ dm

$\tan 30 = \frac{y}{100}$

$y = 100 \tan 30$

$y = 57.7$

$46.6 + 57.7 \approx \boxed{104 \text{dm}}$