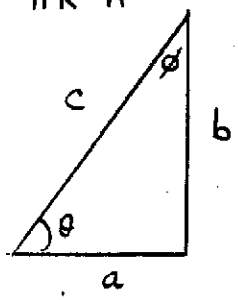
15. $C = 2\pi R$; $A = \pi R^2$ 16. $P = 2(l+w)$; $A = lw$

17. $SA = 4\pi R^2$; $V = \frac{4}{3}\pi R^3$ 18. $A = 6l^2$; $V = l^3$

19. $A = \pi R^2$ 20. $A = \frac{1}{2}bh$ 21. $V = \pi R^2 h$

22. (a) $c = \sqrt{a^2+b^2} = \sqrt{(3.5)^2 + (6.2)^2} = \boxed{7.12}$



$\theta = \arctan\left(\frac{b}{a}\right) = \arctan\left(\frac{6.2}{3.5}\right) = \boxed{61°}$

$\phi = 90° - \theta = 90° - 61° = \boxed{29°}$

(b) $a = c \sin\phi = 5.0 \sin 37° = \boxed{3.0}$

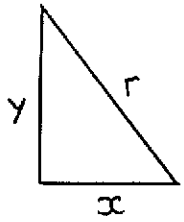
$b = c \cos\phi = 5.0 \cos 37° = \boxed{4.0}$

(c) $\theta = \arctan(0.75) = \boxed{37°}$

(d) $\sin\phi = \frac{a}{c} \Rightarrow c = \frac{a}{\sin\phi} = \frac{2.4}{\sin 60°} = \boxed{2.77}$

(e) $\cos\theta = \frac{a}{c} \Rightarrow \theta = \arccos\left(\frac{a}{c}\right) = \arccos\left(\frac{1.8}{2.5}\right) = \boxed{44°}$

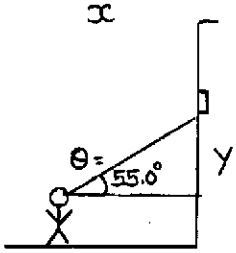
23.



$r = \sqrt{x^2+y^2} \Rightarrow r^2 = x^2+y^2 \Rightarrow y^2 = r^2 - x^2$

$y = \sqrt{r^2-x^2} = \sqrt{(300\text{m})^2 - (240\text{m})^2} = \boxed{180\text{m}}$

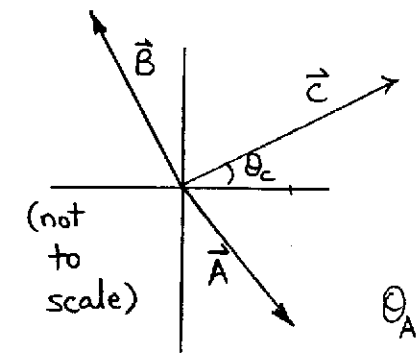
24.



$\tan\theta = \frac{y}{x} \Rightarrow y = x \tan\theta$

$y = (20.0\text{m}) \tan 55.0° = \boxed{28.6\text{m}}$

25.



$A_x = 6.0$, $A_y = -8.0$

$B_x = -3.0$, $B_y = 5.0$

$C = 8.0$ @ $+30°$ with x-axis

$A = \sqrt{A_x^2 + A_y^2} = \sqrt{(6.0)^2 + (-8.0)^2} = \boxed{10}$

$\theta_A = \arctan\left(\frac{A_y}{A_x}\right) = \arctan\left(\frac{-8.0}{6.0}\right) = \boxed{-53°}$