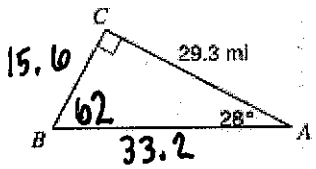
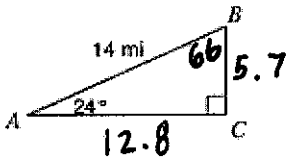
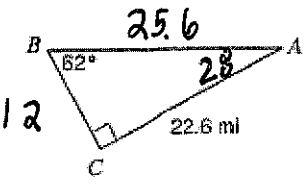
Unit 2 Review Sheet
Intro to Trig

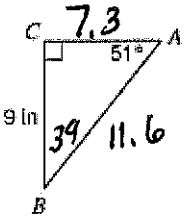
Name: Key

1 – 4. Solve each triangle.







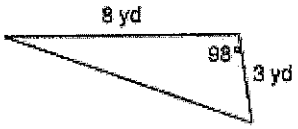


5. Solve the triangle: $m\angle B = 105°, b = 23, a = 14$. mLA = 36, m∠C = 39, c = 14.98
6. Solve the triangle: $m\angle C = 13°, m\angle A = 22°, c = 9$ m∠B = 145, a = 15, b = 22.9
7. Solve the triangle: In ΔABC, a = 14 cm, b = 9 cm, c = 6 cm mLA = 137, m∠B = 17, m∠C = 26
8. Solve the triangle: In ΔXYZ, m∠X = 138°, y = 15 in, z = 25 in m∠Y = 15.4, m∠Z = 26.6, x = 37.5

9. Find csc θ if tan θ = ¾ $\csc\theta = 5/3$
10. Find sec θ if sin θ = $\frac{3\sqrt{13}}{13}$ $\sec\theta = \frac{2\sqrt{13}}{13}$

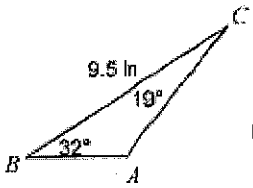
11. Find the exact value of all 6 trig functions of θ if the point (3, 6) lies on the terminal side. Simplify all answers. $\sin\theta = \frac{2\sqrt{5}}{5}$ $\cos\theta = \frac{\sqrt{5}}{5}$ $\tan\theta = 2$ $\csc\theta = \frac{\sqrt{5}}{2}$ $\sec\theta = \sqrt{5}$ $\cot\theta = 1/2$

12. Find the area of the triangle



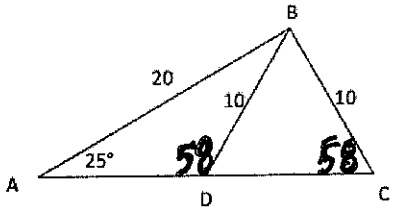
$11.9\ yd^2$

13. Find the area of the triangle



$10.02\ in^2$

14. . For the figure below find m∠ADB and m∠C to the nearest whole degree, given m∠ADB > m∠C.



15. Matt measures the angle of elevation of the peak of a mountain as 35º. Susie, who is 1200 feet closer on a straight level path, measures the angle of elevation as 42º. How high is the mountain?

h = 6298.5 feet

16. Which trig function(s) match each chart?

+	+
−	−

sine
cosecant

−	+
−	+

cosine
secant

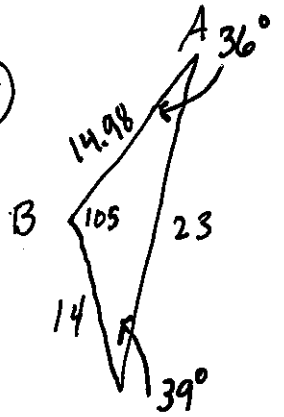
−	+
+	−

tangent
cotangent

③ $\sin 62 = \frac{22.6}{c}$ $\tan 62 = \frac{22.6}{a}$

④ $\sin 51 = \frac{9}{c}$ $\tan 51 = \frac{9}{b}$

⑤

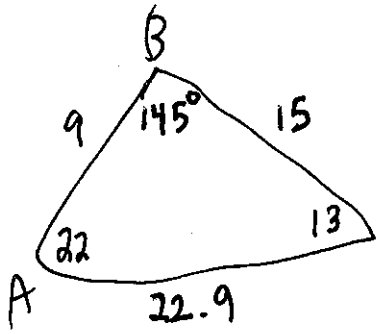


$\frac{\sin 105}{23} = \frac{\sin A}{14} \rightarrow \frac{14 \sin 105}{23} = \sin A$

$A = 36$

$\frac{\sin 105}{23} = \frac{\sin 39}{B}$ $\frac{23 \sin 39}{\sin 105} = 14.98$

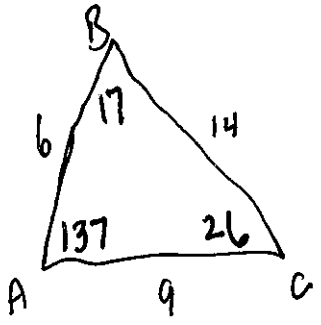
⑥



$\frac{\sin 13}{9} = \frac{\sin 22}{a} \rightarrow \frac{9 \sin 22}{\sin 13} = 15$

e $\frac{\sin 13}{9} = \frac{\sin 145}{b} \rightarrow \frac{9 \sin 145}{\sin 13} = 22.9$

⑦



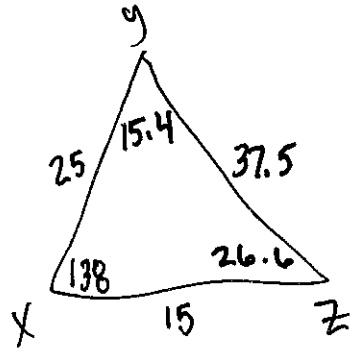
$14^2 = 6^2 + 9^2 - 2(6)(9)\cos A$ $6^2 = 14^2 + 9^2 - 2(14)(9)\cos B$

$79 = -108 \cos A$ $-241 = -252 \cos B$

$-0.73 = \cos A$ $0.956 = \cos B$

$137 = A$ $17 = B$

⑧



$X^2 = 25^2 + 15^2 - 2(25)(15)(\cos 138$

$X = 37.5$

~~$25^2 = 15^2 + 37.5^2 - 2(15)(37.5)\cos 138$~~

$25^2 = 15^2 + 37.5^2 - 2(15)(37.5)\cos Z$

$Z = 26.6$

9. $\csc\theta = \frac{r}{y}$ $\tan\theta = \frac{3}{4} = \frac{y}{x}$ $\sqrt{4^2+3^2} = 5$

$\csc\theta = \frac{5}{3}$

10. ~~$\sec\theta = \frac{3\sqrt{13}}{13}$~~ $\sec\theta = \frac{x}{r}$ $\sin\theta = \frac{y}{r} = \frac{3\sqrt{13}}{13} = \frac{3}{\sqrt{13}}$

$\sec\theta = \frac{2}{\sqrt{13}} = \frac{2\sqrt{13}}{13}$

$x^2 + 3^2 = \sqrt{13}^2$

$x^2 = 13 - 9$

$x^2 = 4$

$x = 2$

11. $x = 3$ $y = 6$ $r = \sqrt{45} = 3\sqrt{5}$

$\sin\theta = \frac{6}{3\sqrt{5}} = \frac{2\sqrt{5}}{5}$ $\csc\theta = \frac{\sqrt{5}}{2}$

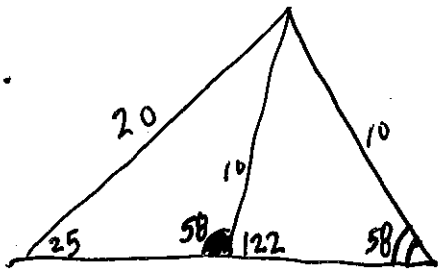
$\cos\theta = \frac{3}{3\sqrt{5}}$ $\frac{\sqrt{5}}{5}$ $\sec\theta = \sqrt{5}$

$\tan\theta = \frac{6}{3} = 2$ $\cot\theta = 1/2$

12. $\frac{1}{2}(8)(3)\sin 98 = 11.9\ yd^2$

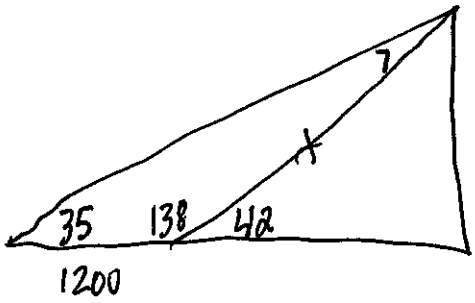
13. $\frac{9.5^2 \sin 19 \sin 32}{2 \sin 129} = 10.02$

14.



$\frac{\sin 25}{10} = \frac{\sin D}{20}$ $\frac{\sin 122}{10} = \frac{\sin C}{10}$

$D = 58$ $C = 58$



$$\frac{\sin 7}{2000} = \frac{\sin 35}{x}$$

$$X = 9412.97$$

$$\sin 42 = \frac{h}{9412.97} = 6298.5$$