Honors Math II
Unit 9 midchapter review

Name $\qquad$
Period $\qquad$ Date $\qquad$

1. Given: $\sin A=\frac{12}{13} \quad$ Find: $\cos B=$ ? $\tan A=$ ?
$\sin B=?$

Angle C is the right angle
2. Given: $\tan B=\frac{2}{3} \quad$ Find: $\sin A=$ ?

$$
\begin{aligned}
& \cot A=? \\
& \cos B=?
\end{aligned}
$$

Angle C is the right angle
Use the given point on the terminal side of an angle $\theta$ in standard position to evaluate the six trigonometric functions of $\boldsymbol{\theta}$. And then state the angle rotated $\boldsymbol{\theta}$ to reach the terminal side and the reference angle $\boldsymbol{\theta}^{\prime}$.

| 3. $(1,3)$ $\begin{aligned} & \sin \theta= \\ & \cos \theta= \\ & \tan \theta= \end{aligned}$ $\csc \theta=$ $\sec \theta=$ $\cot \theta=$ <br> reference $\angle \theta^{\prime}=$ $\theta=$ | 4. $(-5,12)$ |
| :---: | :---: |
| 5. $(-4,-5)$ | 6. $(5,-3)$ |

Use the special patterns to solve for x and y . (no calculator)

16. An equilateral triangle has a side length of 8 inches. Find the length of the triangles altitude.
17. The perimeter of a square is 60 cm . Find the length of a diagonal.

Solve the following triangles.


Convert the following angles from degrees to radians or radians to degrees.

| 22. $120^{\circ}$ | $23 .-250^{\circ}$ | $24 . \frac{2 \pi}{3}$ |
| :--- | :--- | :--- | :--- | :--- |
| 25.5 .67 | $26 . \frac{11 \pi}{6}$ | $27.45^{\circ}$ |

28. A hiker stands $x$ feet from the base of a 24 foot tall tree. The angle of elevation to the top of the tree is $45^{\circ}$. How far is the hiker from the base of the tree?
29. A flagpole projects a show that is 26 feet long. The angle of elevation to the sun is $30^{\circ}$. What is the approximate height of the flagpole?
30. A hiker at the top of a 4000 foot mountain sees a farm at an angle of depression of $53^{\circ}$. What is the distance from the hiker to the farm?
31. Find:
arc length of $\overparen{P Q}$
