

SCORE: ___ / 10 POINTS

What month is your birthday? _____

What are the first 2 digits of your address? _____

What are the last 2 digits of your zip code? _____

What are the last 2 digits of your social security number? _____

**[IF YOU DO NOT HAVE A SOCIAL SECURITY NUMBER,
USE YOUR STUDENT ID NUMBER]****TO RECEIVE FULL CREDIT, YOU MUST SHOW NEATLY HOW YOU ARRIVED AT YOUR ANSWERS**

The measures of two angles of a triangle are $17^{\circ}41'13''$ and $96^{\circ}12'10''$. Find the measure of the third angle.
Your answer should be in degrees/minutes/seconds format, **NOT** decimal degrees.

SCORE: ___ / 2 POINTS

$$\begin{aligned}
 & 180^{\circ} - (17^{\circ}41'13'' + 96^{\circ}12'10'') \\
 &= 180^{\circ} - 113^{\circ}53'23'' \\
 &= 179^{\circ}59'60'' - 113^{\circ}53'23'' \\
 &= 66^{\circ}6'37''
 \end{aligned}$$

 $\frac{1}{2}$ POINT EACH

Find the angle of least positive measure coterminal with -5280° .

SCORE: ___ / 2 POINTS

$$\begin{aligned}
 & -5280^{\circ} + 360^{\circ} * 15 \\
 &= 120^{\circ}
 \end{aligned}$$

 $\frac{1}{2}$ POINT EACH

An airplane propeller rotates 950 times per minute. Find the number of degrees that a point on the edge of the propeller will rotate in 7 seconds.

SCORE: ___ / 3 POINTS

$$\begin{aligned}
 & 950 \text{ ROTATIONS PER MINUTE} \\
 &= \frac{950}{60} \text{ ROTATIONS PER SECOND} \\
 &= \frac{950}{60} \times 360 \text{ DEGREES PER SECOND} \\
 &= \left[\frac{950}{60} \right] \times 360 \times 7 \text{ DEGREES IN 7 SECONDS}
 \end{aligned}$$

 $\frac{1}{2}$ POINT EACH

$$\begin{aligned}
 & \text{OR } 7 \text{ SECONDS} \times \frac{1 \text{ MINUTE}}{60 \text{ SECONDS}} \\
 & \times \frac{950 \text{ ROTATIONS}}{1 \text{ MINUTE}} \times \frac{360^{\circ}}{1 \text{ ROTATION}} \\
 &= 39,900^{\circ} \text{ IN 7 SECONDS}
 \end{aligned}$$

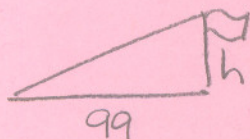
 $\frac{1}{2}$ POINT EACH

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1 POINT

Firefighters at the Morganza Fire Station need to measure the height of the station flagpole. They find that at the instant when the shadow of the station is 18m long, the shadow of the flagpole is 99m long. The station is 10m high. Find the height of the flagpole.

SCORE: ___ / 3 POINTS



$$\frac{h}{10} = \frac{99}{18} \quad 2 \text{ POINTS}$$

$$18h = 990$$

$$h = 55\text{m} \quad 1 \text{ POINT}$$

