## UNIT 8 TEST REVIEW

What are the theorems we can use to show two triangles are similar?

Determine if the triangles can be proven similar and state the theorem used. $\triangle K D H \sim \triangle B E A$
1.

2.


$$
\frac{28}{2} 0=\frac{21}{15}
$$



Determine if/why the triangles are similar, and complete the similarity statement.

5. 6 .

$\begin{aligned} \text { Similar By: } & \quad \text { SAS } \\ \Delta L M N & \sim \triangle G H N\end{aligned}$ $1.3125=1.3125$
7. A bird sits on top of a lamppost. The angle of depression from the bird to the feet of an observer standing away from the lamppost is $35^{\circ}$. The distance from the bird to the observer is 25 meters. How tall is the lamppost?

8. Holly stands 15 ft from a statue. She looks up at an angle of $55^{\circ}$ to see the top of the statue. Her eye level is 5 ft above the ground. How tall is the statue to the nearest foot?

9. A building is 50 feet high. At a distance away from the building, an observer notices that the angle of elevation to the top of the building is 41 . How far is the observer from the base of the building?
10.

11.

$x=13$
$y=18.38$
12.


$$
\begin{aligned}
& \tan (3 x)=\frac{4}{y} \quad \sin (30)=\frac{4}{x} \\
& y=\frac{4}{\tan (30)} \quad x=\frac{4}{\sin (30)}
\end{aligned}
$$

$$
x=8
$$

$$
y=6.93
$$

14. 


13.

$\mathbb{R}_{\sin Q}=\frac{30}{34}=\frac{15}{17}$

- $\operatorname{Sin} R=\underline{\frac{16}{34}=\frac{8}{17}}$
- $\cos Q=\frac{16}{34}=\frac{8}{17}$
- $\operatorname{Cos} R=\frac{\frac{30}{34}=\frac{15}{17}}{30}$
- $\operatorname{Tan} Q=\frac{30}{16}=\frac{15}{8}$
- $\operatorname{Tan} R=\frac{30}{10}=\frac{15}{8}$

