$\qquad$
$\qquad$ Date: $\qquad$

## Geometry - Unit 3 Review

## Multiple Choice

1. Determine how many segments are parallel to $\overline{G E}$ ?
A. 0
B. 1
C. 2
D. 3
E. 4
F. 5
G. 6
H. 7

2. Which of the following best explains the angle relationship of $\angle 1$ and $\angle 3$ for the diagram below.
A. Corresponding Angles
E. Alternate Exterior Angles
B. Alternate Interior Angles
F. Linear Pair
C. Consecutive Interior
G. Vertical Angles
D. Consecutive Exterior
Angles
H. None of the Above

3. In the figure to the right, $n \| m$, find the value of $x$
A. $x=18^{\circ}$
B. $x=20^{\circ}$
C. $x=36^{\circ}$
D. $x=64^{\circ}$

4. In the figure to the right, $a \| b$, find the value of $y$
A. $y=-9$
B. $y=9$
C. $y= \pm 9$
D. $y= \pm 3 \sqrt{11}$

5. In the diagram below, line $p$ is parallel to line $j$ and line $t$ is perpendicular to $\overrightarrow{A B}$. What is the measure of $\angle B A C$ ?
A. $m \angle B A C=37^{\circ}$
B. $m \angle B A C=53^{\circ}$
C. $m \angle B A C=45^{\circ}$
D. $m \angle B A C=127^{\circ}$

6. Based on the figure below, select all statements at are true if $l \| m$ and $r \| s$ ?
A. $m \angle 1=m \angle 5$
B. $m \angle 2+m \angle 3=180^{\circ}$
C. $m \angle 4=m \angle 8$
D. $m \angle 6+m \angle 9=180^{\circ}$
E. $m \angle 1+m \angle 9=180^{\circ}$
F. $m \angle 2+m \angle 10=90^{\circ}$

7. Which statement is true based on the figure
A. $m \| n$
B. $m \| q$
C. $n \| q$
D. $s \| r$

8. Assuming that $A \cong B$, which of the following is a reason why $l \| m$ ?
A. Corresponding Angles

Converse
B.

Alternate Interior Angles
Converse
C. Consecutive Interior

Angles
D. Consecutive Exterior

Angles Converse
G. Vertical Angles Converse
E. Alternate Exterior Angles Converse
F. Linear Pair Converse
H. None of the Above

9. Solve for $x$ and $y$ so that $a\|b\| c$.
A. $x=5.8$
B. $x=9$
C. $x=22$
D. $x=29$
E. $y=3.2$
F. $y=9.9$
G. $y=10.1$
H. $y=11.0$

10. Which angles are congruent to $\angle 4$ ? Select all that apply.
A. $\angle 1$
B. $\angle 2$
C. $\angle 3$
D. $\angle 5$
E. $\angle 6$
F. $\angle 7$

11. Name the angle relationship of $\angle A$ and $\angle D$.
A. Alternative Exterior
C. Corresponding Angles
B. Alternative Interior
D. Consecutive Interior


## For 12 - 16, refer to the figure on the right.

12. Name all planes that are parallel to plane $A E F$.
13. Name all segments that intersect $\overline{A F}$.
14. Name all segments that are parallel to $\overline{D C}$.

15. Name all segments that are skew to $\overline{A D}$.
16. Plane BGCH is parallel to $\qquad$

For 17-21, complete the statement with alternate interior, alternate exterior, corresponding, consecutive interior, vertical angles, linear pair, or none.
17. $\angle 3$ and $\angle 7$ are $\qquad$ angles.
18. $\angle 4$ and $\angle 5$ are $\qquad$ angles.
19. $\angle 2$ and $\angle 8$ are $\qquad$ angles.
20. $\angle 1$ and $\angle 6$ are $\qquad$ angles.
 .

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\begin{aligned}
& 56 \\
& \hline 7
\end{aligned}
$$

21. $\angle 4$ and $\angle 6$ are $\qquad$ angles.

For $22-27$, state the angle relationship of the following, and solve for the variable.
22.


Angle Relationship: $\qquad$

$$
x=
$$

23. 


24.


Angle Relationship: $\qquad$

$$
m=
$$

25. 


26.

27.


Angle Relationship: $\qquad$ Angle Relationship: $\qquad$ $y=$ $\qquad$

$$
x=
$$

For $28-31$, use the figure to the right and that $a \| b$
28. $m \angle 1=$ $\qquad$
29. $m \angle 2=$ $\qquad$
30. $m \angle 3=$ $\qquad$
31. $m \angle 4=$ $\qquad$


For $32-34$, find the following.
32. $x=$ $\qquad$ 33. $x=$ $\qquad$ $y=$ $\qquad$ 34. $a=$ $\qquad$ $b=$ $\qquad$


For 35 - 40, determine if $a \| b$; if so, explain why they are parallel.
35.
$\qquad$
36.

37.

$\qquad$
$\qquad$
$\qquad$
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$\qquad$
38.

39.

40.

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