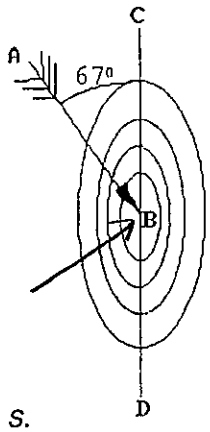
Name: KEY! Date: _____ Hour: _____

Unit B Review: Angles

1. The arrow at the right has pierced the target forming angle ABC with measure 67. What is the measure of angle ABD?



180
−67

$\angle ABD = \boxed{113°}$

2. $\angle 1$ and $\angle 2$ are vertical angles. If $m\angle 1 = 14s$ and $m\angle 2 = 28$, find s.

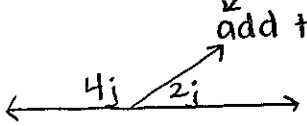
equal

$\frac{14s}{14} = \frac{28}{14}$

$\boxed{s = 2}$

3. Two angles are supplementary. The measure of the larger angle is $4j$, and the measure of the smaller angle is $2j$. What are the measures of the two angles?

add to 180°



$4j + 2j = 180$

$\frac{6j}{6} = \frac{180}{6}$

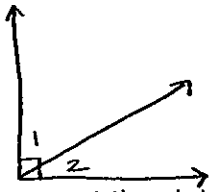
$j = 30$

$4 \cdot 30$ & $2 \cdot 30$

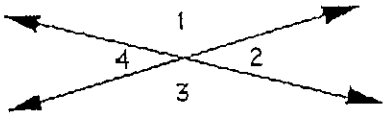
$\boxed{120° \text{ & } 60°}$

4. Sketch two angles, $\angle 1$ and $\angle 2$, that are complimentary and adjacent.

add to 90° neighbors



5. Refer to the figure at the right.



a. Find $m\angle 2$ if $m\angle 4 = 24$.

$\boxed{24°}$

b. Find $m\angle 2$ if $m\angle 3 = 2n$.

$\boxed{180 - 2n}$

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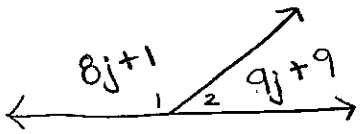
6. Suppose $\angle 1$ and $\angle 2$ form a linear pair, with $m\angle 1 = 8j + 1$ and $m\angle 2 = 9j + 9$.

neighbors & add up to 180°



a. Find j.

$8j+1+9j+9=180$

$17j+10=180$

$-10 \quad -10$

$\frac{17j}{17} = \frac{170}{17}$

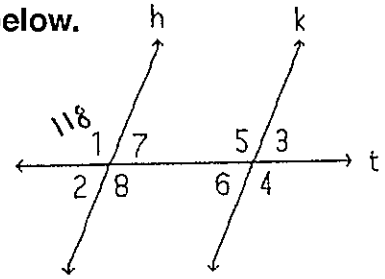
$j=10$

b. Find $m\angle 2$.

$9j+9$

$9\cdot 10+9 = 99°$

For 7 and 8, use the figure below.



7. Suppose $m\angle 1 = 118$.

a. Find $m\angle 7$. $180-118 = 62°$

b. Find $m\angle 3$. $62°$

c. Find $m\angle 4$. $118°$

8. Suppose $m\angle 1 = 9y - 67$ & $m\angle 7 = 2y + 16$.

add up to 180°

a. Find y.

$9y-67+2y+16=180$

$11y-51=180$

$+51 \quad +51$

$\frac{11y}{11} = \frac{231}{11}$

$y=21$

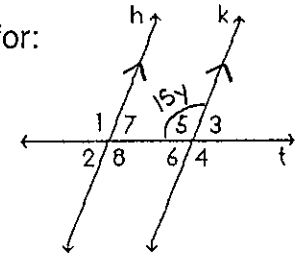
b. Find $m\angle 4$.

same as ∠1

$9y-67$

$9\cdot 21-67 = 122°$

9. In the figure below, h // k and $m\angle 5 = 15y$. Give an expression for:



a. $m\angle 8$. $15y$

b. $m\angle 2$. $180-15y$

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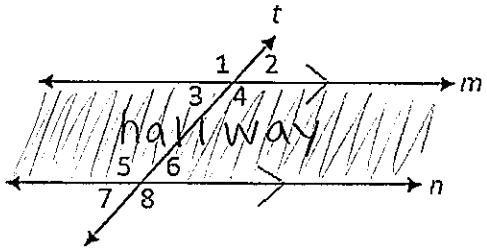
In 10-17, use the diagram below. Name each using the numbers below.



10. Vertical Angles

ex: ∠1 & ∠4

11. Linear Pair ← neighbors & add to 180°

ex: ∠1 & ∠2

12. Obtuse Angle

ex: ∠5

13. AIA inside hall

∠3 & ∠6 or ∠4 & ∠5

14. AEA outside hall

∠1 & ∠8 or ∠2 & ∠7

15. Corresponding Angles "corner"

ex: ∠3 & ∠7

16. Supplementary Angles ↑add to 180°

ex: ∠3 & ∠5

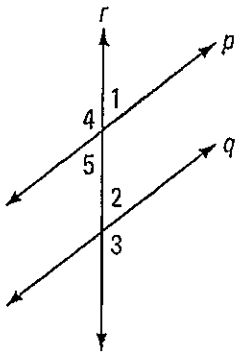
17. Acute Angle

ex: ∠2

Write a justification for each conclusion.

18. Given: p // q
Conclusion: ∠1 and ∠4 are supplementary

Linear Pair



19. Given: p // q
Conclusion: ∠2 = ∠5

AIA

20. Given: p // q
Conclusion: ∠4 = ∠3

AEA