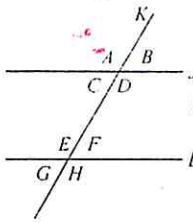
Geometry Sem 1 Final Exam Review

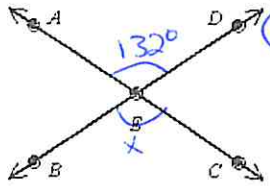
Name: Key

1. **Given:** $\angle H$ and $\angle C$ are supplementary.
Prove: $J \parallel L$



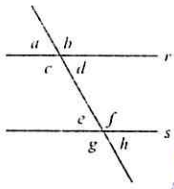
∠H + ∠C are Supp.	Given
m∠H + m∠C = 180°	Def. of Supp.
m∠H = m∠E	Vert. ∠'s are ≅.
m∠E + m∠C = 180°	Substitution
J ∥ L	S-S Int. ∠'s are Supp.

2. In the figure shown, $m\angle AED = 132°$? Find $m\angle BEC$.



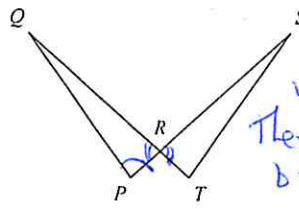
Vertical Angles, so m∠BEC = 132°

3. **Given:** $r \parallel s$
Prove: $\angle b$ and $\angle h$ are supplementary.



r ∥ s	Given
m∠b = m∠f	corr. ∠'s are ≅.
m∠f + m∠h = 180°	Adjacent ∠'s are Supp.
m∠b + m∠h = 180°	Substitution
∠b + ∠h are Supp.	Def. of Supp.

4. Based on the given information, what can you conclude, and why?
Given: $\angle P \cong \angle T$, $\overline{PR} \cong \overline{RT}$

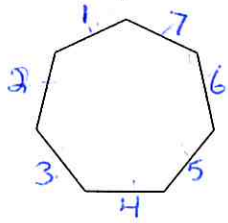


We know ∠SRT ≅ ∠QRP because they are vertical angles. Then △QPR ≅ △STR by ASA.

5. Which statement is an example of the Addition Property of Equality?
a. If $p = q$ then $p + s = q + s$.
b. both
c. neither
d. If $p = q$ then $p - s = q - s$

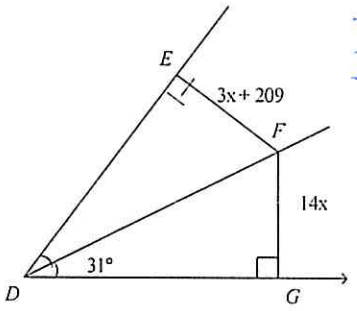
Add. Prop. means we can add the same number to both sides of the equation.

6. Find the sum of the measures of the angles of the regular polygon. Find the measure of one interior angle and one exterior angle.



7 sides
−2
5 × 180° = 900° Total
900 ÷ 7 = 128.57° Interior ∠
360 ÷ 7 = 51.43° = Exterior ∠

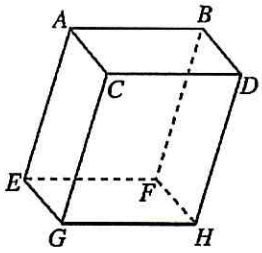
7. $\overline{DF}$ bisects $\angle EDG$. Find the value of x.



3x + 209 = 14x
−3x −3x
209 = 11x
11 11
19 = x

8. Identify the hypothesis and conclusion of this conditional statement:
If two lines intersect at right angles, then the two lines are perpendicular.
H: Two lines intersect @ right angles.
C: The two lines are perpendicular.

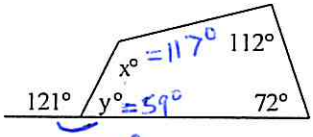
9. Name the three labeled segments that are parallel to $\overline{DH}$.



$\overline{BF}$, $\overline{AE}$, and $\overline{CG}$.

~~10. Find the center of the circle that you can circumscribe about the triangle: (-2, 1), (-2, -4), (1, -4)~~

11. Find the missing angle measures.



4 sides
−2
2 × 180 = 360° Total
x + 112 + 72 + 59 = 360°
x + 243 = 360°
−243 −243
x = 117°

121 + y = 180°
−121 −121
y = 59°

12. $\angle DFG$ and $\angle DFG$ $\angle DFG$ and $\angle JKL$ are complementary angles. $m\angle DFG = x + 6$, and $m\angle JKL = x - 2$. Find the measure of each angle.

complementary means adds up to 90°

x + 6 + (x − 2) = 90°
2x + 4 = 90°
−4 −4
2x = 86°
2 2
x = 43