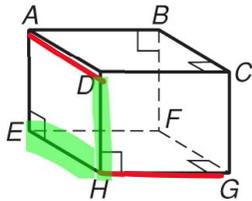


# Unit D Practice Exam

Name: \_\_\_\_\_

Circle the best answer.

1. Classify  $\overline{HG}$  and  $\overline{AD}$ .

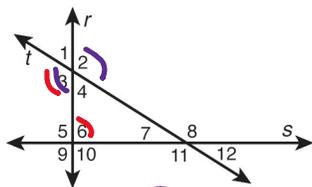


- A skew segments
- B parallel segments
- C perpendicular segments
- D intersecting segments

2. Classify  $\overline{EH}$  and  $\overline{DH}$ .

- A skew segments
- B parallel segments
- C perpendicular segments
- D parallel planes

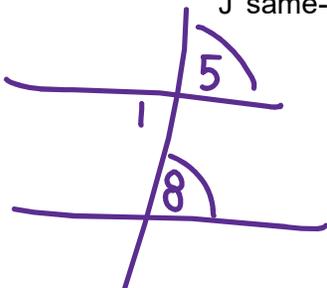
3. Which are **NOT** alternate interior angles?



- A  $\angle 3$  and  $\angle 6$
- B  $\angle 2$  and  $\angle 3$
- C  $\angle 2$  and  $\angle 7$
- D  $\angle 4$  and  $\angle 5$

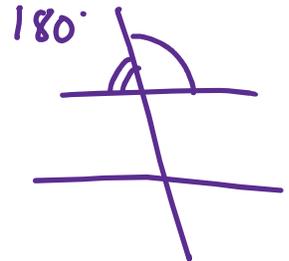
4. The angles formed by two lines and a transversal are labeled 1 through 8. If  $\angle 1$  and  $\angle 8$  are alternate interior angles and  $\angle 1$  and  $\angle 5$  are vertical angles, what type of angle pair is  $\angle 5$  and  $\angle 8$ ?

- F alternate exterior angles
- G corresponding angles
- H alternate interior angles
- J same-side interior angles

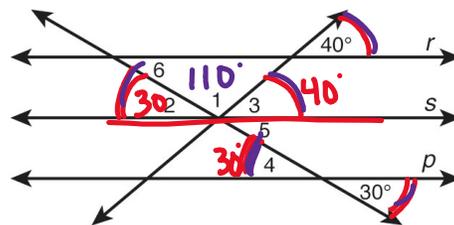


5. Which correctly completes the sentence? When two lines are parallel, the acute angles they form with a transversal are \_\_\_\_\_ to the obtuse angles.

- A supplementary
- B complementary
- C congruent
- D vertical



Use the figure for Exercises 6 and 7.



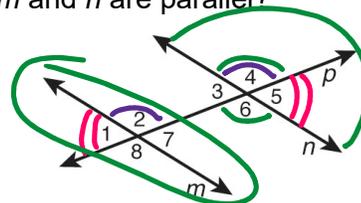
6. Given  $r \parallel s \parallel p$ , which angle is NOT congruent to  $\angle 4$ ?

- F  $\angle 2$
- H  $\angle 5$
- G  $\angle 3$
- J  $\angle 6$

7. Given  $r \parallel s \parallel p$ , what is the measure of  $\angle 1$ ?

- A  $40^\circ$
- B  $110^\circ$
- C  $90^\circ$
- D  $140^\circ$

8. Which **CANNOT** be used to prove that lines  $m$  and  $n$  are parallel?



- F  $\angle 2 \cong \angle 4$
- G  $\angle 6$  is supplementary to  $\angle 7$ .
- H  $\angle 4$  is supplementary to  $\angle 5$ .
- J  $\angle 1 \cong \angle 5$

9. Lines  $r$  and  $s$  are cut by a transversal so that  $\angle 1$  and  $\angle 2$  are same-side interior angles. If  $m\angle 1 = (8x + 40)^\circ$  and  $m\angle 2 = (12x + 20)^\circ$ , for what value of  $x$  is it true that  $r \parallel s$ ?

- A 6
- B 10
- C 30
- D 60

$$20x + 60 = 180$$

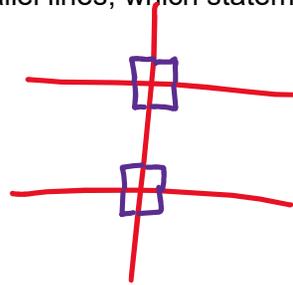
$$\quad -60 \quad -60$$

$$20x = 120$$

$$x = 6$$

10. If a transversal is perpendicular to one of two parallel lines, which statement is **NOT** correct?

- F All the angles formed are congruent.
- G Every pair of angles is supplementary.
- H The transversal is  $\perp$  to the other line.
- J Every pair of angles is complementary.



11. Given two angles are supplementary and one angle has a measure of  $(3x - 4)$  and the other angle has a measure of  $(2x + 34)$ , then what is the measure of the bigger angle?

$$5x + 30 = 180$$

$$\quad -30 \quad -30$$

$$\frac{5x}{5} = \frac{150}{5}$$

$$x = 30$$

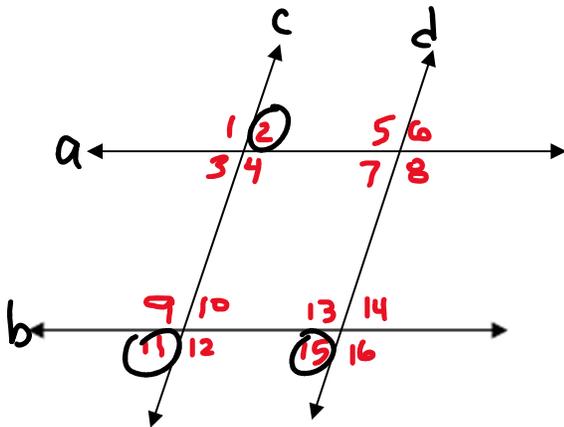
$$2(30) + 34$$

$$= 60 + 34$$

$$= \boxed{94}$$

12. Given  $a \parallel b$  and  $c \parallel d$

Prove:  $\angle 2 \cong \angle 15$



S	R
1. $a \parallel b$ $c \parallel d$	1. Given
2. $\angle 2 \cong \angle 11$	2. Alt. Ext. $\angle$ 's
3. $\angle 11 \cong \angle 15$	3. Corresponding $\angle$ 's
4. $\angle 2 \cong \angle 15$	4. Transitive Prop.

