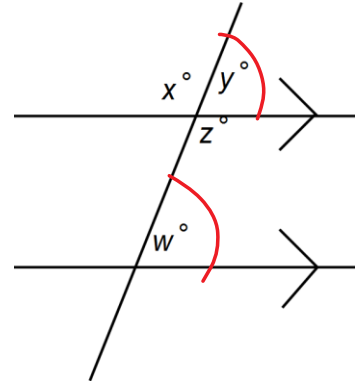
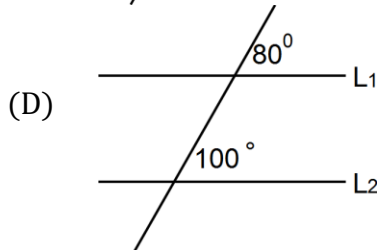
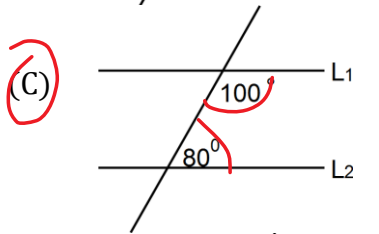
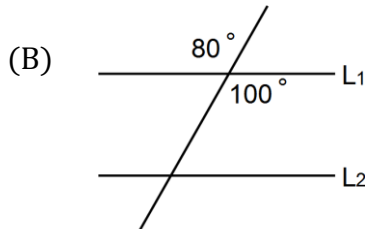
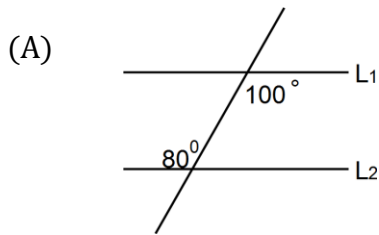


10 Part I: Multiple Choice. Place the correct answer in the corresponding blank at the end of this section.

1. What is the relationship between $\angle w$ and $\angle y$?
- (A) Alternate Interior Angles
 - (B) Corresponding Angles
 - (C) Same Side Interior Angles
 - (D) Vertically Opposite Angles

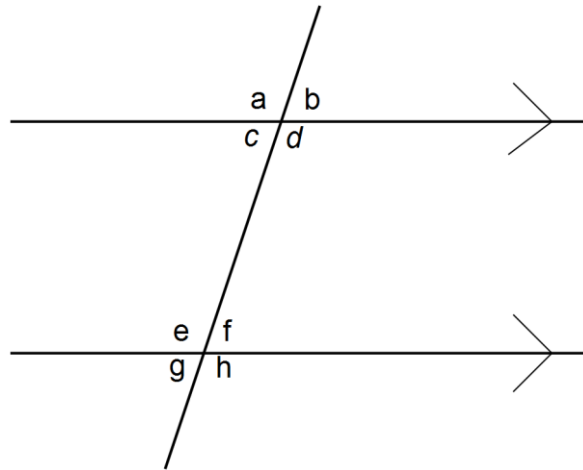


2. Which sets of lines (L_1, L_2) are parallel?



3. Which pair of angles are alternate interior?

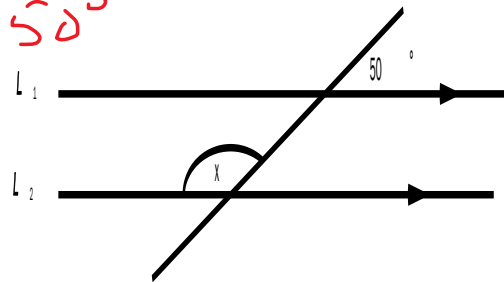
- (A) $\angle a$ and $\angle e$
- (B) $\angle b$ and $\angle c$
- (C) $\angle d$ and $\angle e$
- (D) $\angle d$ and $\angle f$



4. If $L_1 \parallel L_2$ in the diagram below, what is the value of x , in degrees?

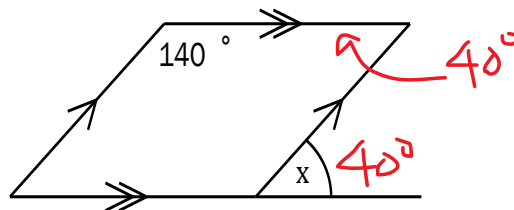
- (A) 50
- (B) 65
- (C) 100
- (D) 130

$$x = 180^\circ - 50^\circ = 130^\circ$$



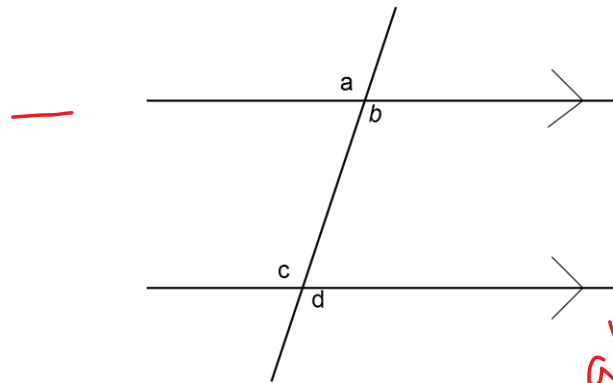
5. In the diagram below, what is the value of x , in degrees?

- (A) 40
- (B) 80
- (C) 110
- (D) 140



6. Students were asked to provide statements and reasons to prove the conjecture: "Alternate exterior angles formed by the intersection of a transversal and parallel lines are congruent". What is the error in this proof?

Prove: $\angle a = \angle d$



alternate interior

Statements	Reason
$\angle b = \angle c$	Corresponding Angles
$\angle a = \angle b$	Vertically Opposite
$\angle c = \angle d$	Vertically Opposite
$\angle a = \angle d$	Substitution

Step 1

Step 2

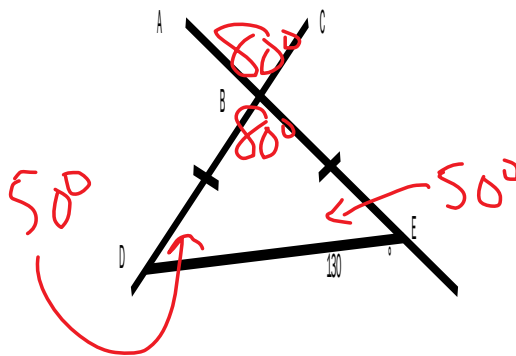
Step 3

Step 4

- (A) Step 1
- (B) Step 2
- (C) Step 3
- (D) Step 4

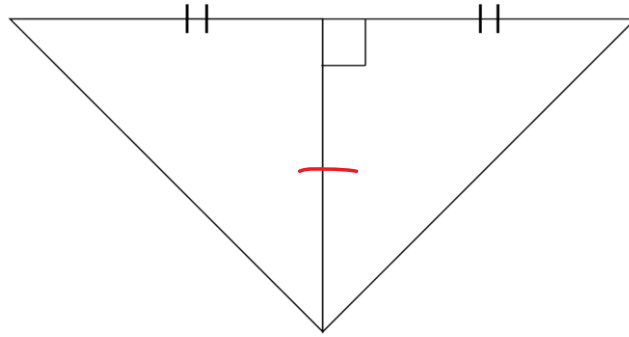
7. In the diagram below, what is the measure of $\angle ABC$, in degrees?

- (A) 50
- (B) 60
- (C) 80
- (D) 130



8. Which congruency relationship proves the two triangles congruent?

- (A) SSS
- (B) SAS
- (C) ASA
- (D) AAS



9. What is the sum of the measures of the interior angles of the polygon?

- (A) 540°
- (B) 720°
- (C) 900°
- (D) 1080°

$$S = 180(n-2)$$

$$S = 180(6-2)$$

$$= 180(4)$$

$$= 720^\circ$$



10. The sum of the measures of the interior angles of a regular polygon is 1080° . How many sides does the regular polygon have?

- (A) 6
- (B) 7
- (C) 8
- (D) 10

$$S = 180(n-2)$$

$$\frac{1080}{180} = \frac{180(n-2)}{180}$$

$$6 = n - 2$$

$$6 + 2 = n$$

$$n = 8$$

Answers to multiple choice.

1. ___ 2. ___ 3. ___ 4. ___ 5. ___

6. ___ 7. ___ 8. ___ 9. ___ 10. ___

Constructed Response. Answer each question in the space provided. Show all workings.

- 5 11. Determine the value of x .

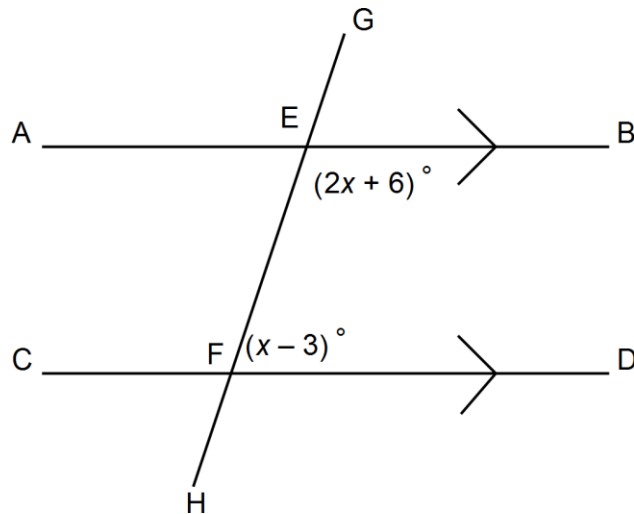
$$2x + 6 + x - 3 = 180$$

$$3x + 3 = 180$$

$$3x = 180 - 3$$

$$\frac{3x}{3} = \frac{177}{3}$$

$$x = 59$$



- 5 12. Determine the measure of $\angle A$.

$$3x + 5 + 2x + 5 + 35 = 180$$

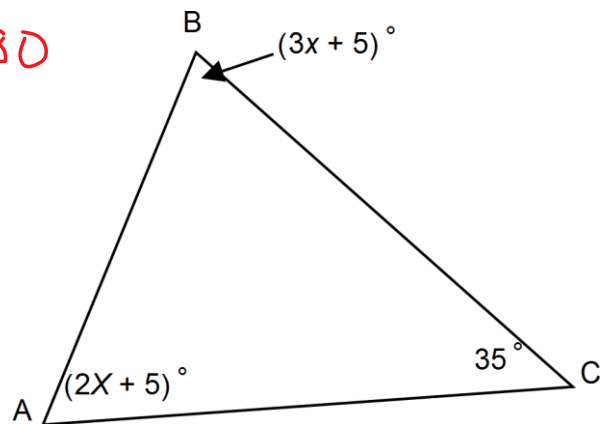
$$5x + 45 = 180$$

$$5x = 180 - 45$$

$$\frac{5x}{5} = \frac{135}{5}$$

$$x = 27$$

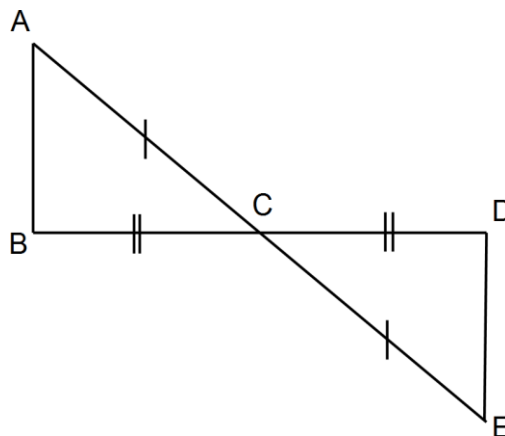
$$\angle A = 2(27) + 5 = 59^\circ$$



5

13. Given: $\overline{AC} = \overline{EC}$
 $\overline{BC} = \overline{DC}$

Prove: $\triangle ABC \cong \triangle EDC$

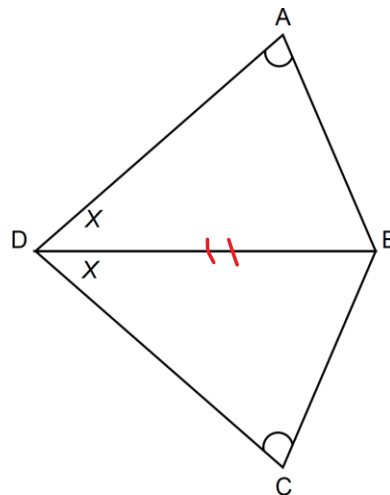


Statements	Reason
$\overline{AC} = \overline{EC}$	Given
$\overline{BC} = \overline{DC}$	Given
$\angle ACB = \angle DCE$	vertically opposite
$\triangle ABC \cong \triangle EDC$	SAS

5

14. Given: $\angle DAB = \angle DCB$
 $\angle ADB = \angle CDB$

Prove: $\triangle ADB \cong \triangle CDB$



Statement	Reason
$\angle DAB = \angle DCB$	Given
$\angle ADB = \angle CDB$	Given
$\overline{DB} = \overline{DB}$	Common side
$\triangle ADB \cong \triangle CDB$	AAS