Lines & Angles

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▷ Types of Angles

How far two rays have turned from a shared point.

- **Acute:** Between 0° and 90°
- **Right:** Exactly 90°
- **Obtuse:** Between 90° and 180°
- **Straight:** Exactly 180°
- **Reflex:** Between 180° and 360°

◇ Special Angle Pairs

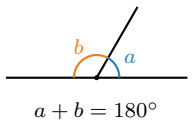
Pairs of angles with a fixed relationship.

- **Complementary:** Sum to 90°
- **Supplementary:** Sum to 180°
- **Vert. Opposite:** Always equal

E.g. $27° + 63° = 90°$ $134° + 46° = 180°$

★ Basic Angle Facts (The Golden Rules)

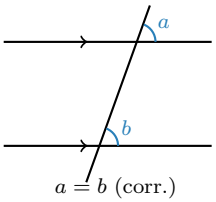
Rule	Fact	Shape
Straight Line	Angles sum to 180°	Two angles on a line
Point	Angles sum to 360°	All angles around a point
Vert. Opposite	Angles are **equal**	Crossing lines (X-shape)



$a + b = 180°$

‖ Parallel Lines & Transversals

Type	Relation	Look For
Corresponding	**Equal**	F-shape
Alternate	**Equal**	Z-shape
Co-Interior	Sum to 180°	C / U-shape



$a = b$ (corr.)

Key: Look for arrow markings (→) to confirm lines are parallel before applying these rules!

△ Common Traps & Pitfalls

1. **No Arrows = No Rules!** Don't assume parallel without markings.
2. **Vert. Opp. ≠ Adjacent:** They are **across**, not next to each other.
3. **Co-Interior ≠ Equal:** They sum to 180°, not equal.
4. **State Reasons:** Always name the rule for full marks.

✓ Quick Exam Strategy

- **Spot the shape:** F → Corr. (equal)
  Z → Alt. (equal)
  C/U → Co-int. (180°)
- **Sanity check:** Line = 180°, point = 360°
- **Multi-step:** Work angle-by-angle, stating each reason

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