

Grade 8 - Angles in Triangles and Parallel Lines - Quiz

Common Core 8.G.A.5 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

Pick the best answer for each of the 10 questions about angle relationships in triangles and with parallel lines cut by a transversal (Common Core 8.G.A.5). Read each question carefully, then read the explanation to learn from any mistake.

Grade 8 · Common Core State Standards: **8.G.A.5**

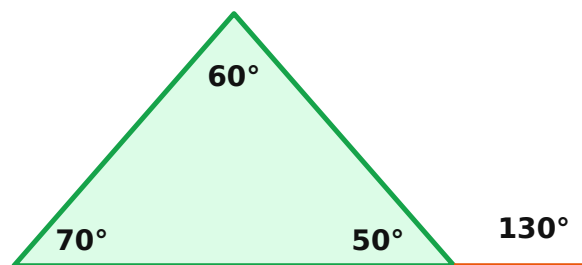
Questions

Question 1

Two angles of a triangle are 35° and 80° . What is the third?

- A. 115°
- B. 65°
- C. 45°
- D. 55°

Question 2



A triangle. Not drawn to scale.

What is the measure of the exterior angle at the right vertex?

- A. 130°
- B. 110°
- C. 120°

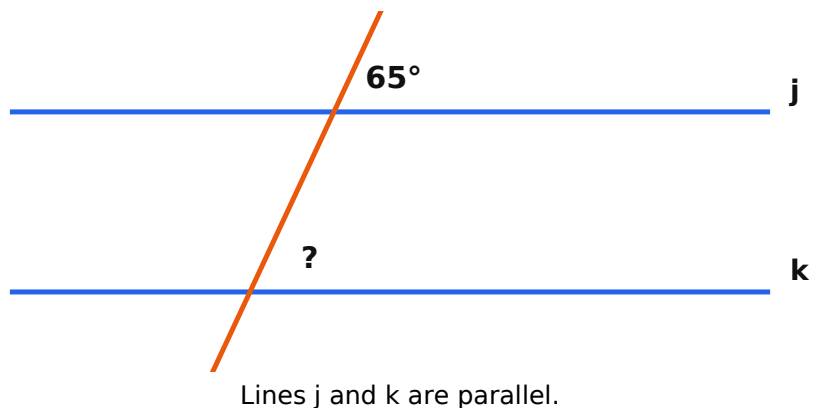
D. 50°

Question 3

An exterior angle is 140° and one remote interior angle is 90° . What is the other remote interior angle?

- A. 40°
- B. 50°
- C. 230°
- D. 90°

Question 4



Lines j and k are parallel. What is the angle marked ?

- A. 115°
- B. 25°
- C. 90°
- D. 65°

Question 5

Co-interior angles on parallel lines add up to

- A. 180°
- B. 90°
- C. 360°
- D. 0°

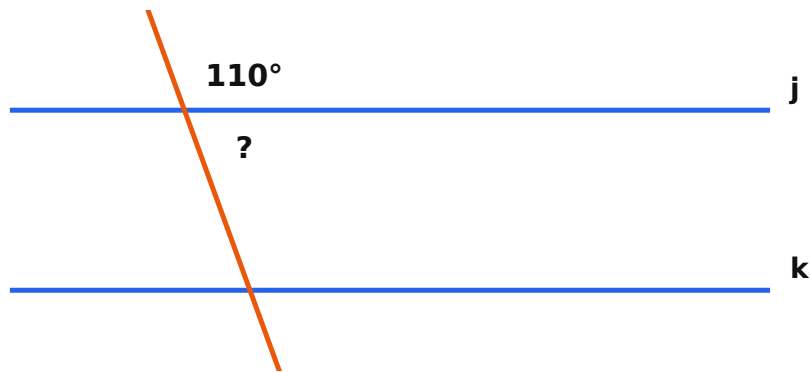
Question 6

Vertical angles are

- A. supplementary
- B. complementary
- C. always right angles

D. equal

Question 7



A transversal crosses lines j and k.

What is the measure of the angle marked ?, which forms a linear pair with the 110° angle?

- A. 110°
- B. 90°
- C. 70°
- D. 20°

Question 8

Triangles with angles 30, 60, 90 and 60, 90, 30 are

- A. similar
- B. congruent for sure
- C. not similar
- D. equilateral

Question 9

If $x+2x+3x=180$, what is the smallest angle?

- A. 60°
- B. 90°
- C. 30°
- D. 20°

Question 10

Can a triangle have angles 100° , 50° and 40° ?

- A. Yes, the sum is 180
- B. No, the sum is 190
- C. Yes, if it is obtuse
- D. No, the sum is 170

Answers

1. **B** - $180 - 35 - 80 = 65$.
2. **A** - The exterior angle equals $70 + 60 = 130$ (or $180 - 50$).
3. **B** - $140 - 90 = 50$.
4. **D** - These are corresponding angles, so they are equal.
5. **A** - Same-side interior angles are supplementary.
6. **D** - Vertical angles are opposite each other and have equal measures.
7. **C** - A linear pair adds up to 180: $180 - 110 = 70$.
8. **A** - Equal angles make the triangles similar, but side lengths may differ.
9. **C** - $6x = 180$, so $x = 30$.
10. **B** - $100 + 50 + 40 = 190$, not 180.

Remember

- Angles of a triangle: $a + b + c = 180^\circ$.
- Exterior angle = sum of the two remote interior angles.
- Parallel lines: corresponding and alternate interior angles are equal.
- Co-interior angles add to 180° ; vertical angles are equal.
- Two equal angles are enough to show two triangles are similar (AA).