

Triangles in Technical Drawing: Properties Check

Name: _____ Class: _____ Date: _____

Watch the video, then answer the questions.

Part A: Match the Triangle (Join with arrows or drag and drop)

Match each triangle name to its description.

Name	Description
1. Equilateral	a. Has one 90° angle
2. Isosceles	b. All three sides are different lengths
3. Scalene	c. All sides equal and all angles 60°
4. Right-angled	d. Two sides equal and two angles equal

Part B: Choose the Correct Answer (Drop-down or multiple choice)

5. The three interior angles of any triangle add up to:

- A) 90° B) 180° C) 270° D) 360°

6. A triangle has angles of 50° and 70° . The third angle is:

- A) 50° B) 60° C) 70° D) 80°

7. In a right-angled triangle, one of the other angles is 35° . The remaining angle is:

- A) 45° B) 55° C) 65° D) 145°

8. An isosceles triangle has a top angle of 40° . Each base angle is:

- A) 40° B) 60° C) 70° D) 140°

9. Each angle of an equilateral triangle measures:

- A) 30° B) 45° C) 60° D) 90°

Part C: Can You Draw It? (Choose YES or NO)

In technical drawing, you can only construct a triangle if the **two shorter sides added together are longer than the longest side**.

	Side lengths	Can it be drawn?
10 .	3 cm, 4 cm, 5 cm	YES / NO
11 .	2 cm, 3 cm, 6 cm	YES / NO
12 .	5 cm, 5 cm, 10 cm	YES / NO
13 .	6 cm, 7 cm, 8 cm	YES / NO

Part D: Fill in the Blanks (Type the answer)

14. A 45° set square has angles of 90° , 45° and _____ $^\circ$.
15. A 30° – 60° set square has angles of 30° , 60° and _____ $^\circ$.
16. The 45° set square is an _____ right-angled triangle because two of its sides are equal.
17. A triangle has angles of 35° and 75° . The third angle is _____ $^\circ$.

Part E: Think and Explain (Open answer)

18. A student says, "I drew a triangle with angles 90° , 60° and 40° ." Explain why this is **impossible**.
19. Name **one** place where triangles are used in real structures (for example, bridges or roof frames). Why are triangles a good shape for strength?

Challenge (Optional bonus)

20. A triangle has interior angles of 45° and 65° . What is the **exterior angle** at the third corner? (*Hint: draw it and extend one side.*)