Sum of Interior Angles of a Triangle

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For each of the following, draw a diagram and answer the questions that follow. Figures are not drawn to scale.

1) In triangle ABC, \( \angle A = 3x - 10 \), \( \angle B = 6x - 4 \), and \( \angle C = x + 14 \). Find \( x \) and all angles.

2) In triangle DEF, \( \angle D = 2x - 12 \), \( \angle E = 3x + 8 \), and \( \angle F = 5x - 6 \). Find \( x \) and all angles.

3) In triangle RST, \( \angle R = 3x - 7 \), \( \angle S = 4x - 6 \), and \( \angle T = x - 9 \). Find \( x \) and all angles.

4) In triangle XYZ, \( \angle X = 2y - 17 \), \( \angle Y = 2y + 4 \), and \( \angle Z = 6y - 7 \). Find \( y \) and all angles.

5) In triangle ABC, \( \angle A = x - 4 \), \( \angle B = x - 6 \), and \( \angle C = 2x + 8 \). Find \( x \) and all angles.