

Name: _____

Date _____

Topic: Triangle Inequality Theorem - Worksheet 1

- 1. Lengths 13, 11, 10 could represent the measures of the sides of a triangle?**
- 2. In triangle KIH, $\angle K = 40^\circ$ and $\angle K > \angle I$. Which is the smallest side of the triangle?**
- 3. Two sides of an isosceles triangle measures 24 and 11. What is the possible value of the third side?**
- 4. In triangle FGH, an exterior angle at F measures 70° , and $\angle G = 50^\circ$. Which is the longest side of the triangle?**
- 5. Lengths 16, 11, 18 could represent the measures of the sides of a triangle?**
- 6. In triangle KLM, $\angle K = 55^\circ$ and $\angle L = 40^\circ$. Which is the longest side of the triangle?**
- 7. In triangle NOP, $\angle N = 95^\circ$ and $\angle N > \angle O > \angle P$. Which is the longest side of the triangle?**
- 8. In $\triangle PQR$, $PQ = 8$, $QR = 7$, $RP = 15$. Which is the largest angle?**
- 9. In triangle RPS, an exterior angle at R measures 64° , and $\angle P = 26^\circ$. Which is the longest side of the triangle?**
- 10. Two sides of an isosceles triangle measures 16 and 9. What is the possible value of the third side?**



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Topic: Triangle Inequality Theorem - Worksheet 2

- 1. Lengths 15, 13, 12 could represent the measures of the sides of a triangle?**
- 2. In triangle GMD, $\angle G = 60^\circ$ and $\angle G > \angle M$. Which is the smallest side of the triangle?**
- 3. Two sides of an isosceles triangle measures 25 and 12. What is the possible value of the third side?**
- 4. In triangle IJK, an exterior angle at I measures 65° , and $\angle J = 35^\circ$. Which is the longest side of the triangle?**
- 5. Lengths 17, 10, 6 could represent the measures of the sides of a triangle?**
- 6. In triangle OPQ, $\angle O = 50^\circ$ and $\angle P = 35^\circ$. Which is the longest side of the triangle?**
- 7. In triangle QRS, $\angle Q = 92^\circ$ and $\angle Q > \angle R > \angle S$. Which is the longest side of the triangle?**
- 8. In $\triangle STU$, $ST = 7$, $TU = 8$, $US = 14$. Which is the largest angle?**
- 9. In triangle TUV, an exterior angle at T measures 62° , and $\angle U = 28^\circ$. Which is the longest side of the triangle?**
- 10. Two sides of an isosceles triangle measures 14 and 11. What is the possible value of the third side?**



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Topic: Triangle Inequality Theorem - Worksheet 3

- 1. Lengths 12, 7, 3 could represent the measures of the sides of a triangle?**
- 2. In triangle HDC, $\angle H = 45^\circ$ and $\angle H > \angle D$. Which is the smallest side of the triangle?**
- 3. Two sides of an isosceles triangle measures 26 and 10. What is the possible value of the third side?**
- 4. In triangle LMN, an exterior angle at L measures 60° , and $\angle M = 30^\circ$. Which is the longest side of the triangle?**
- 5. Lengths 14, 13, 16 could represent the measures of the sides of a triangle?**
- 6. In triangle RST, $\angle R = 55^\circ$ and $\angle S = 40^\circ$. Which is the longest side of the triangle?**
- 7. In triangle TUV, $\angle T = 96^\circ$ and $\angle T > \angle U > \angle V$. Which is the longest side of the triangle?**
- 8. In $\triangle XYZ$, $XY = 9$, $YZ = 13$, $ZX = 11$. Which is the largest angle?**
- 9. In triangle WXY, an exterior angle at W measures 68° , and $\angle X = 22^\circ$. Which is the longest side of the triangle?**
- 10. Two sides of an isosceles triangle measures 7 and 16. What is the possible value of the third side?**



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Topic: Triangle Inequality Theorem - Worksheet 4

- 1. Lengths 16, 9, 15 could represent the measures of the sides of a triangle?**
- 2. In triangle SLR, $\angle S = 55^\circ$ and $\angle S > \angle L$. Which is the smallest side of the triangle?**
- 3. Two sides of an isosceles triangle measures 22 and 12. What is the possible value of the third side?**
- 4. In triangle ABC, an exterior angle at A measures 90° , and $\angle B = 45^\circ$. Which is the longest side of the triangle?**
- 5. Lengths 18, 6, 9 could represent the measures of the sides of a triangle?**
- 6. In triangle UVW, $\angle U = 56^\circ$ and $\angle V = 42^\circ$. Which is the longest side of the triangle?**
- 7. In triangle ABC, $\angle A = 88^\circ$ and $\angle A > \angle B > \angle C$. Which is the longest side of the triangle?**
- 8. In $\triangle DEF$, $DE = 15$, $EF = 12$, $FD = 12$. Which is the largest angle?**
- 9. In triangle JKL, an exterior angle at J measures 70° , and $\angle J = 25^\circ$. Which is the longest side of the triangle?**
- 10. Two sides of an isosceles triangle measures 10 and 18. What is the possible value of the third side?**



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Topic: Triangle Inequality Theorem - Worksheet 5

- 1. Lengths 15, 10, 26 could represent the measures of the sides of a triangle?**
- 2. In triangle KFD, $\angle K = 58^\circ$ and $\angle K > \angle F$. Which is the smallest side of the triangle?**
- 3. Two sides of an isosceles triangle measures 26 and 11. What is the possible value of the third side?**
- 4. In triangle RST, an exterior angle at R measures 98° , and $\angle S = 35^\circ$. Which is the longest side of the triangle?**
- 5. Lengths 14, 5, 12 could represent the measures of the sides of a triangle?**
- 6. In triangle XYZ, $\angle X = 52^\circ$ and $\angle Y = 44^\circ$. Which is the longest side of the triangle?**
- 7. In triangle GHI, $\angle G = 83^\circ$ and $\angle G > \angle H > \angle I$. Which is the longest side of the triangle?**
- 8. In $\triangle MNO$, $MN = 14$, $NO = 18$, $OM = 11$. Which is the largest angle?**
- 9. In triangle PQR, an exterior angle at P measures 75° , and $\angle Q = 35^\circ$. Which is the longest side of the triangle?**
- 10. Two sides of an isosceles triangle measures 9 and 16. What is the possible value of the third side?**

