TRIANGLE INEQUALITIES

Coloring Activity!

Name: _____

Date: _____ Per: _____

Directions: Solve each problem. Circle the answer that matches your solution. Color the picture using your selected answers. Colors may be used more than once. Staple all work to this paper!

1 Which side lengths could NOT form a triangle?

Purple: 5 m, 6 m, 8 m	Gray: 10 m, 10 m, 2 m
Orange: 19 m, 34 m, 15 m	Yellow: 3 m, 16 m, 14 m

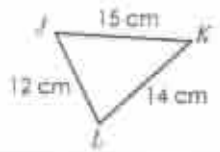
2 Two sides of a triangle measure 10 feet and 14 feet. Which inequality shows the possible lengths for the third side, x?

Black: $10 \leq x \leq 14$	Light Green: $4 \leq x \leq 24$
Red: $10 < x < 14$	Dark Blue: $4 < x < 24$

3 Two sides of a triangle measure 27 inches and 32 inches. Which could represent the length of the third side?

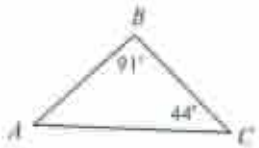
Brown: 5 in	Black: 7 in
Light Blue: 59 in	Purple: 62 in

4 Which inequality correctly shows the relationship of the angles in $\triangle JKL$?



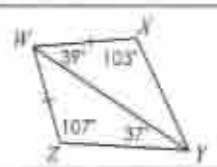
Pink: $m\angle K < m\angle L < m\angle J$	Red: $m\angle J < m\angle L < m\angle K$
Dark Green: $m\angle L < m\angle J < m\angle K$	Light Blue: $m\angle K < m\angle J < m\angle L$

5 Which inequality correctly shows the relationship of the sides of $\triangle ABC$?



Purple: $AC > BC > AB$	Light Green: $AC < BC < AB$
Yellow: $AB > BC > AC$	Brown: $BC < AB < AC$

6 Which inequality correctly shows the relationship of the sides shown in the diagram?



Gray: $\overline{ZY} > \overline{WX}$	Light Green: $\overline{ZY} < \overline{XY}$
Red: $\overline{XY} = \overline{ZY}$	Dark Green: $\overline{XY} < \overline{ZY}$

7 In $\triangle PQR$, $m\angle P = 5x + 7$, $m\angle Q = 3x - 11$, and $m\angle R = 7x - 28$. Which inequality shows the relationship of the sides?

Dark Green: $PR > PQ > QR$	Pink: $PR < QR < PQ$
Yellow: $QR > PQ > PR$	Brown: $PQ < QR < PR$

8 In $\triangle CDE$, $CD = 2x + 1$, $DE = 3x - 4$, and $CE = x + 1$. If the perimeter of the triangle is 52 meters, which inequality shows the relationship of the angles?

Pink: $m\angle D < m\angle E < m\angle C$	Black: $m\angle D < m\angle C < m\angle E$
Dark Green: $m\angle D > m\angle E > m\angle C$	Purple: $m\angle D > m\angle C > m\angle E$

9 In $\triangle MNP$, $MN = 5x + 19$, $NP = 4x - 1$, and $MP = 10x - 7$. Which inequality shows all the possible values of x?

White: $9 < x < 31$	Dark Green: $3 < x < 25$
Brown: $3 < x < 13$	Red: $11 < x < 25$

10 In $\triangle RST$, $RS = x + 15$, $ST = 8x - 26$, and $RT = 3x + 1$. Which inequality shows all the possible values of x?

Yellow: $2 < x < 10.5$	Dark Blue: $2 < x < 4$
Red: $4 < x < 10.5$	Brown: $4 < x < 26$