Triangle Angle Relationships and Algebra

With your partner solve each problem.

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| 1. The measures of the angles of a triangle are given as *x*°, 3x° and 4x°. What are the measures of each angle? | | |
| Draw and label a triangle: | Write and solve an equation: | Find each angle measure: |
| 1. One of the congruent angles of an isosceles triangle measures 51°. Find the measures of the other angles. | | |
| Draw and label a triangle: | Write and solve an equation: | Find each angle measure: |
| 1. Two angles of a triangle have the same measure. The sum of the measures of these angles is one-half the measure of the third angle. Find the measures of the angles of the triangle. | | |
| Draw and label a triangle: | Write and solve an equation: | Find each angle measure: |
| 1. The measure of one angle of a triangle is twice the measure of a second angle. The measure of the third angle is 12 less than the sum of the other two. Find the measure of the angles of the triangle. | | |
| Draw and label a triangle: | Write and solve an equation: | Find each angle measure: |
| 1. The exterior angle of a triangle measures 93°. The remote interior measures are *x* and *x* – 13. Find the measure of each remote interior angle. | | |
| Draw and label a triangle: | Write and solve an equation: | Find each angle measure: |
| 1. The exterior angle of a triangle has a measure of 3*x*. The remote interior angles measure 2*x* + 10 and *x* – 1. Find the value of *x*, each interior angle of the triangle and the exterior angle. | | |
| Draw and label a triangle: | Write and solve an equation: | Find each angle measure: |
| Find the value of each variable and the measure of each angle. | | |
| 7.  3x  x – 15  x + 30 | | |
| 8.  x + 30  x    5x + 10 | | |
| 9.  b°  a°  72° | | |
| 10.  30  3x + 55  5x - 5 | | |

**Exit Ticket**

1. The measures of the angles of a triangle are given as 2*x*°, 3x° and 4x°. What are the measures of each angle?
2. The exterior angle of a triangle measures 102°. The remote interior measures are 3*x* and 2*x* – 23. Find the measure of each remote interior angle.