Honors Geometry   Name _____

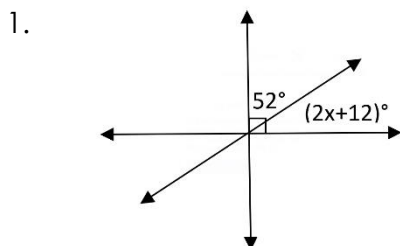Unit 1 – Worksheet 4   Date _____ Period _____

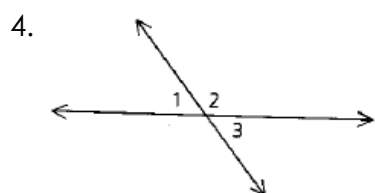**Find the value(s) of the variable(s) below. Draw a box around your answers.**

1.

52° (2x+12)°

x = _____

2.

A

B (x-25)°
35°

C

$m\angle ABC = (360 - 6x)°$

x = _____

3.

43°

(6x+5)°

x = _____

4.

1 2
3
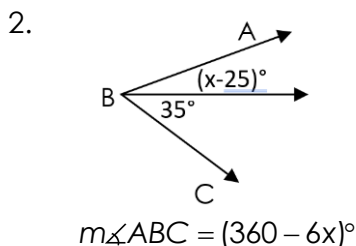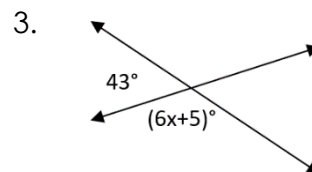
$m\angle 1 = 2x^2 - 2x + 44$
$m\angle 3 = x^2 + 3x + 38$

x = _____

m∠2 = _____

5.

C

D
(x+10)°

(x+5)°   60°

A   B   E

$\angle CBD \cong \angle DBE$

x = _____

m∠A = _____

6.

1 2
3
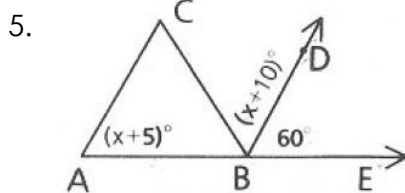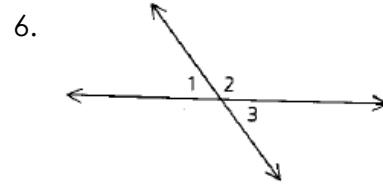
$m\angle 1 = x + 3y$
$m\angle 2 = x + 4y - 5$
$m\angle 3 = x + y + 20$

x = _____

y = _____

Use the figure below to find all the requested missing angles.

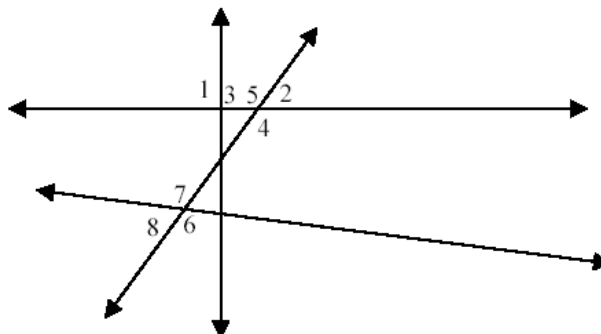Given: $m\angle 1 = 90°$, $m\angle 2 = 34°$, and $m\angle 6 = 137°$.

7.   m∠3 = _____

       m∠4 = _____

       m∠5 = _____

       m∠7 = _____

       m∠8 = _____

1 3 5 2
4

7
8 6

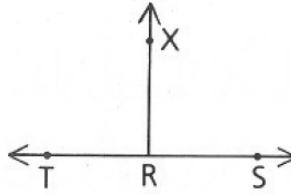**Answer the questions below. Show all work, and draw a box around your final answers.**

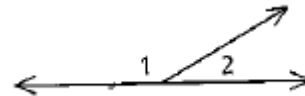8. Given: $\angle TRS$ is a straight angle.
    $\angle TRX$ is a right angle.
    $m\angle TRS = 2x + 5y$
    $m\angle XRS = 3x + 3y$
    Solve for x and y.

9. $\angle 1$ is five times as large as $\angle 2$. Find $m\angle 2$.

10. Two supplementary angles are in the ratio $11:7$. Find the measure of each angle.

11. One of two complementary angles added to ½ the other is 72 degrees. Find half the measure of the larger angle.

12. If three times the supplement of an angle is subtracted from 7 times the complement of an angle, the result is the same as that obtained from trisecting (cutting in three = parts) a right angle.   Find the complement.

13. If B is between A and C and $\overline{AB} = 2x + 1$, $\overline{AC} = 4x + 40$, $\overline{BC} = x + 80$, find the following:

    x = _____

    AB = _____

    BC = _____