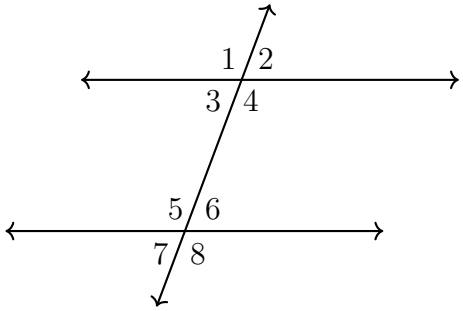
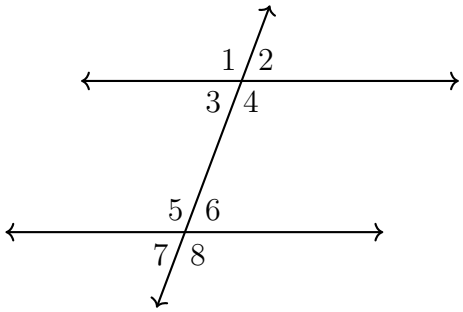
**3.2 Classwork: Finding angle measures for transverse lines**

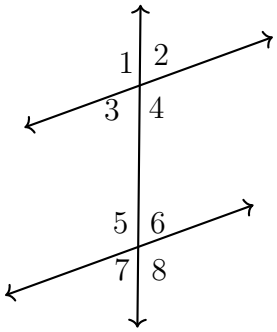
1. Given two parallel lines and a transversal, with $m\angle 4 = 3x$ and $m\angle 5 = x + 70$. Write an equation, then solve for $x$.




2. Given two parallel lines and a transversal, with $m\angle 1 = 3x - 10$ and $m\angle 8 = 2x + 32$. Write an equation, then solve for $x$.




3. Given two parallel lines and a transversal, as shown, with $m\angle 8 = 123°$.

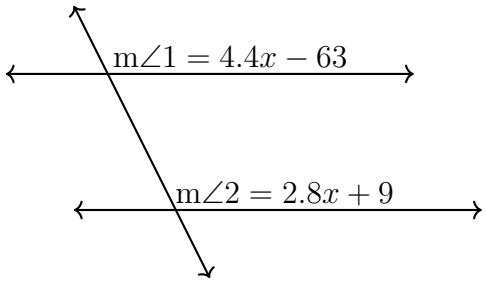



   (a) What angle is corresponding to $\angle 8$?

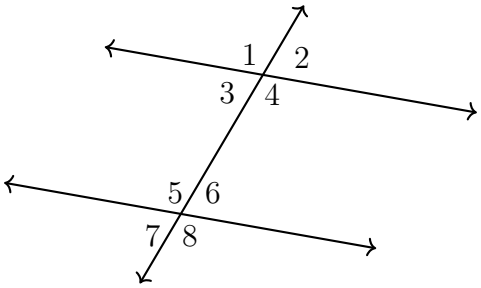
   (b) What angle is alternate exterior to $\angle 8$?

   (c) Find $m\angle 2$

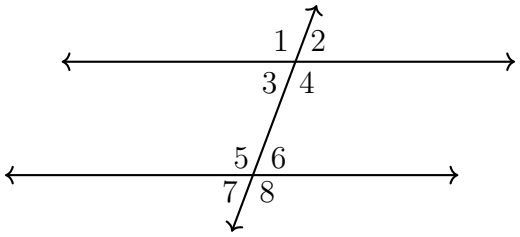
4. Two parallel lines intersect a transversal. Given corresponding angles $\text{m}\angle 1 = 4.4x - 63$ and $\text{m}\angle 2 = 2.8x + 9$, find the measure of $\angle 1$.




5. Given two parallel lines and a transversal, with $\text{m}\angle 3 = 18(x - 1)$ and $\text{m}\angle 5 = 18(x + 1)$. Find $\text{m}\angle 1$. (First write an equation, and solve for $x$)




6. Given two parallel lines and a transversal, as shown below.




   (a) State the angle corresponding with $\angle 7$.

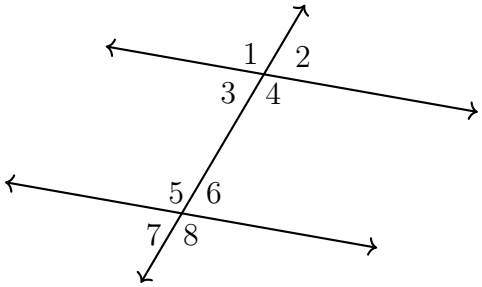
   (b) What theorem would justify $\text{m}\angle 4 + m\angle 6 = 180°$? _____

   (c) What theorem would justify $\angle 3 \cong \angle 6$? _____

   (d) Given $\text{m}\angle 1 = 117°$ and $\text{m}\angle 8 = (4x - 3)°$. Find $x$.

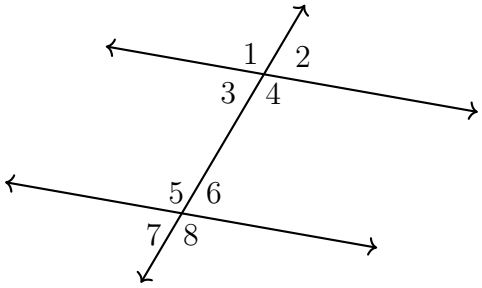
7. Find m$\angle 1$ given two parallel lines and a transversal, with

   $m\angle 1 = 2x + 58$ $\quad$ $m\angle 6 = 5x - 18$




8. Find m$\angle 1$ given two parallel lines and a transversal, with

   $m\angle 4 = 10(7x - 4)$ $\quad$ $m\angle 6 = 8(7x - 4)$




9. Find m$\angle 1$ given two parallel lines and a transversal, with

   $m\angle 2 = \frac{2}{7}(2x + 58)$ $\quad$ $m\angle 7 = \frac{1}{7}(5x + 5)$