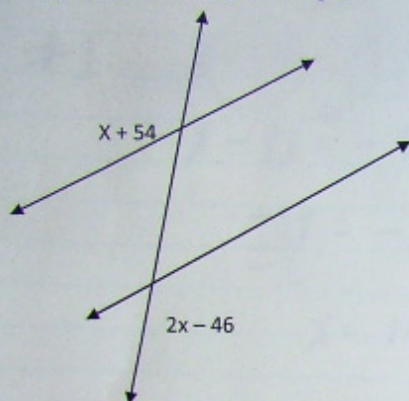


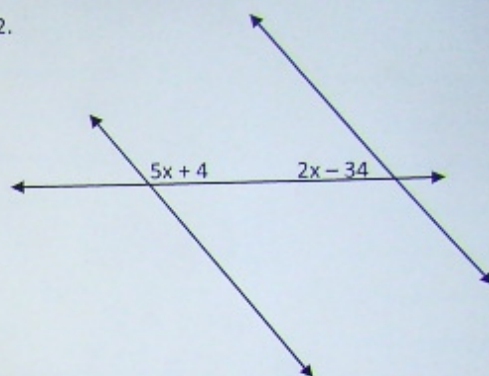
Answer Key.

Solve for x and find the indicated angles:

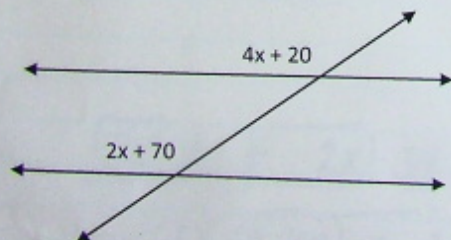
1.



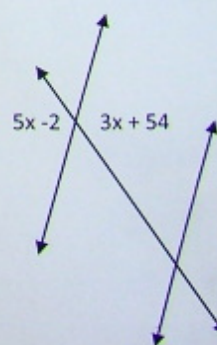
2.

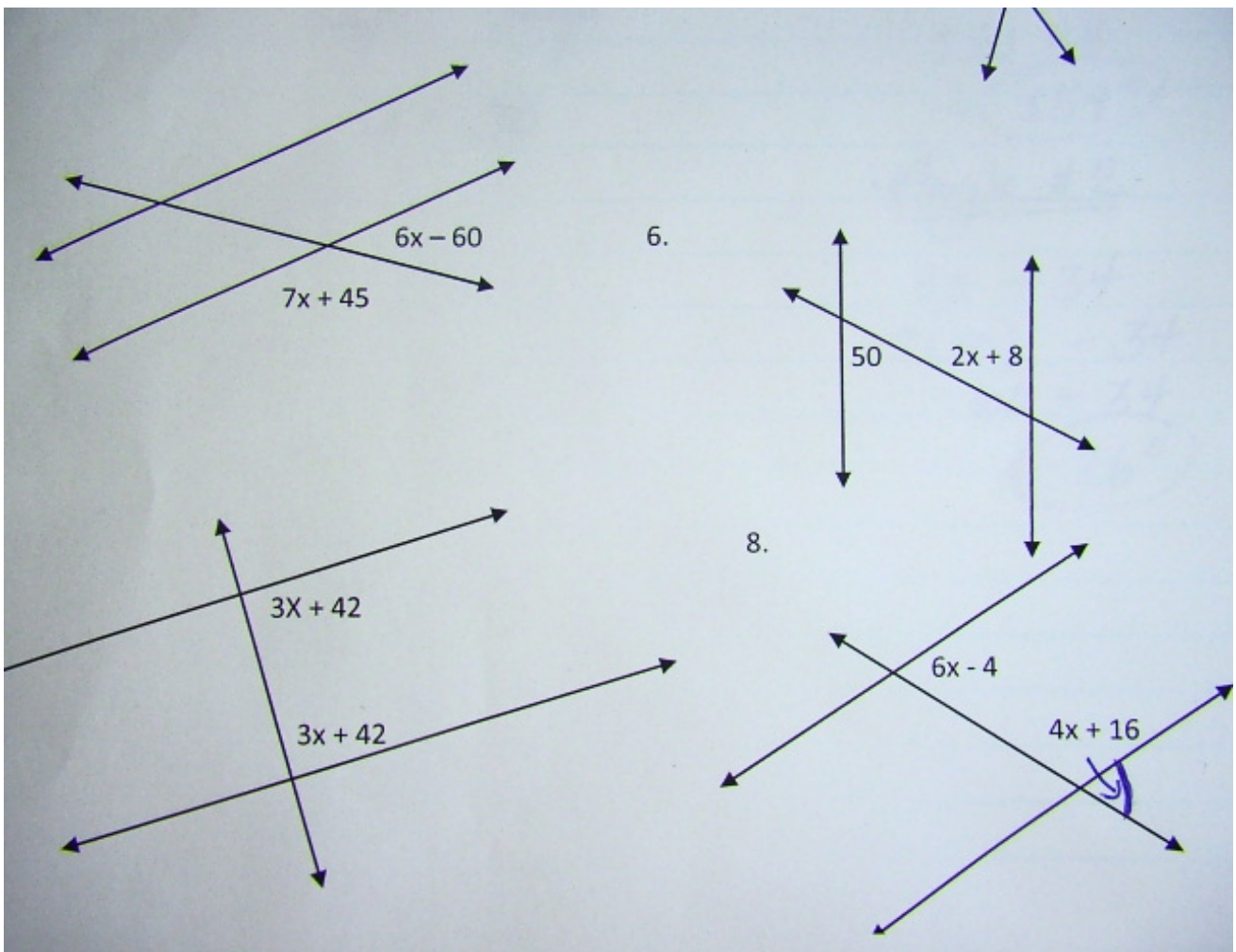


3.



4.





#1. $x + 54 = 2x - 46$

$x - 2x = -46 - 54$

$$\frac{-1x}{-1} = \frac{-100}{-1}$$

$$x = 100$$

Angle #1

$$\begin{aligned} &x + 54 \\ &100 + 54 \\ &= 154^\circ \end{aligned}$$

Angle #2

$$\begin{aligned} &2x - 46 \\ &2(100) - 46 \\ &200 - 46 \\ &= 154^\circ \end{aligned}$$

$$\begin{aligned} \#2. \quad & \boxed{5x+4} + \boxed{2x-34} = 180 \\ & 7x - 30 = 180 + 30 \\ & \frac{7x}{7} = \frac{210}{7} \\ & x = 30 \end{aligned}$$

Angle #1

$$\begin{aligned} & 5x+4 \\ & 5(30) + 4 \\ & 150 + 4 \\ & = 154^\circ \end{aligned}$$

Angle #2

$$\begin{aligned} & 2x - 34 \\ & 2(30) - 34 \\ & 60 - 34 \\ & = 26^\circ \end{aligned}$$

#3. $4x + 20 = 2x + 70$

$$4x - 2x = 70 - 20$$

$$\frac{2x}{2} = \frac{50}{2}$$

$$x = 25^\circ$$

Angle #1

$$4x + 20$$

$$4(25) + 20$$

$$100 + 20$$

$$= 120^\circ$$

Angle #2

$$2x + 70$$

$$2(25) + 70$$

$$50 + 70$$

$$= 120^\circ$$

#4. $5x - 2 = 3x + 54$

$$5x - 3x = 54 + 2$$

$$\frac{2x}{2} = \frac{56}{2}$$

$$x = 28^\circ$$

Angle #1

$$5x - 2$$

$$5(28) - 2$$

$$140 - 2$$

$$= 138^\circ$$

Angle #2

$$3x + 54$$

$$3(28) + 54$$

$$84^\circ + 54^\circ$$

$$= 138^\circ$$

$$\#5. \quad \underline{7x+45} + \underline{6x-60} = 180^\circ$$

$$13x \overset{\text{---}}{\underset{\text{---}}{-15}} = 180 + 15$$

$$\frac{13x}{13} = \frac{195}{13}$$

$$x = 15$$

Angle #1

$$\begin{aligned} &7x + 45 \\ &7(15) + 45 \\ &105 + 45 \\ &= \textcircled{150^\circ} \end{aligned}$$

Angle #2

$$\begin{aligned} &6x - 60 \\ &6(15) - 60 \\ &90 - 60 \\ &= \textcircled{30^\circ} \end{aligned}$$

#6. $2x+8=50-8$ Angle

$$\frac{2x}{2} = \frac{42}{2}$$

$$x = 21^\circ$$

$$2x+8$$

$$2(21)+8$$

$$42+8$$

$$= 50^\circ$$

#7. $3x+42 + 3x+42 = 180$ Angle #1 = 2

$$6x + 84 = 180 - 84$$

$$\frac{6x}{6} = \frac{96}{6}$$

$$x = 16^\circ$$

$$3x+42$$

$$3(16)+42$$

$$48+42$$

$$= 90^\circ$$

$$\#8. \quad 6x - 4 = 4x + 16 + 4$$

$$6x - 4x = 20$$

$$\frac{2x}{2} = \frac{20}{2}$$

$$x = 10$$

Angle #1

$$6x - 4$$

$$6(10) - 4$$

$$60 - 4$$

$$= 56^\circ$$

Angle #2

$$4x + 16$$

$$4(10) + 16$$

$$40 + 16$$

$$= 56^\circ$$

