

Practice A (odd answers)

① adjacent ③ not adjacent

⑤ Complementary Supplementary
 • $\angle UTV \hat{=} \angle XYZ$ • $\angle VTW \hat{=} \angle XYZ$

⑦ $\angle 2 = 90 - 76 = 14^\circ$ ⑨ $\angle = 90 - 63 = 27^\circ$

⑪ $\angle 2 = 180 - 94 = 86^\circ$ ⑬ $\angle 2 = 180 - 121 = 59^\circ$

⑮ $(4x+6)^\circ + (11x-6)^\circ = 180^\circ$ $\angle ABD = 4(12) + 6$
 $\frac{15x^\circ = 180^\circ}{15 \quad 15}$ $\boxed{= 54^\circ}$
 $x = 12^\circ$ $\angle DBC = 11(12) - 6$
 $\boxed{= 126^\circ}$

⑰ linear pair ⑲ vertical ⑳ linear pair

㉓ neither

㉕ $16x^\circ + (9x+5)^\circ = 180^\circ$ $4y^\circ = (9x+5)^\circ$
 $25x + 5 = 180^\circ$ $4y = 9(7) + 5$
 $\quad \quad -5 \quad -5$ $4y = 63 + 5$
 $\hline 25x = 175^\circ$ $4y = 68$
 $\quad \quad 25 \quad 25$ $\frac{4y}{4} = \frac{68}{4}$
 $\boxed{x = 7}$ $\boxed{y = 17}$

㉗ $(9x+2)^\circ + (10x+7)^\circ = 180^\circ$ $(10x+7)^\circ = (18y+25)^\circ$
 $19x + 9 = 180^\circ$ $10(9) + 7 = 18y + 25$
 $\quad \quad -9 \quad -9$ $90 + 7 = 18y + 25$
 $\hline 19x = 171$ $97 = 18y + 25$
 $\quad \quad 19 \quad 19$ $\quad \quad -25 \quad -25$
 $\boxed{x = 9}$ $\frac{72}{18} = \frac{18y}{18}$
 $\boxed{4 = y}$

$$(29) (5x+4)^\circ + (7x-10)^\circ = 90$$

$$12x^\circ - 6 = 90^\circ$$

$$\begin{array}{r} +6 \quad +6 \\ \hline \end{array}$$

$$\frac{12x}{12} = \frac{96}{12}$$

$$x = 8$$

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$$m\angle A = 5x + 4$$

$$= 5(8) + 4$$

$$= 44^\circ$$

$$m\angle B = 7x - 10$$

$$= 7(8) - 10$$

$$= 46^\circ$$

$$(31) (6x-9)^\circ + (8x+1)^\circ = 90$$

$$14x - 8 = 90$$

$$\begin{array}{r} +8 \quad +8 \\ \hline \end{array}$$

$$\frac{14x}{14} = \frac{98}{14}$$

$$x = 7$$

$$x = 7$$

$$m\angle A = 6x - 9$$

$$= 6(7) - 9$$

$$= 33^\circ$$

$$m\angle B = 8x + 1$$

$$= 8(7) + 1$$

$$= 57^\circ$$

$$(33) (7x-3)^\circ + (x-1)^\circ = 180$$

$$8x - 4 = 180$$

$$\begin{array}{r} +4 \quad +4 \\ \hline \end{array}$$

$$\frac{8x}{8} = \frac{184}{8}$$

$$x = 23$$

$$x = 23^\circ$$

$$\angle A = 7x - 3$$

$$= 7(23) - 3$$

$$= 158^\circ$$

$$\angle B = 23 - 1$$

$$= 22^\circ$$

$$(35) (13x+10)^\circ + (12x+20)^\circ = 180$$

$$25x + 30 = 180$$

$$\begin{array}{r} -30 \quad -30 \\ \hline \end{array}$$

$$\frac{25x}{25} = \frac{150}{25}$$

$$x = 6$$

$$x = 6$$

$$\angle A = 13(6) + 10$$

$$= 88^\circ$$

$$\angle B = 12(6) + 20$$

$$= 92^\circ$$

(37) Sample Answers: $\angle 1 \cong \angle 2$; $\angle 3 \cong \angle 4$

(39) Sample Answers: $\angle 5 \cong \angle 7$; $\angle 8 \cong \angle 6$

(41) Sample Answers: $\angle 1 \cong \angle 2$; $\angle 6 \cong \angle 7$