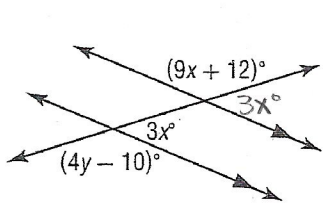


LT 1.2 Skills Practice #1: Algebra

Angles and Parallel Lines

Find the value of the variable(s) in each figure. Explain your reasoning (Justification).

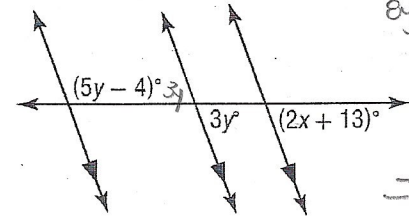
5. What do we know from the picture?



$$\begin{aligned} 9x + 12 + 3x &= 180 \\ 12x + 12 &= 180 \\ -12 \quad -12 & \\ 12x &= 168 \\ x &= 14 \end{aligned}$$

$$\begin{aligned} 4y - 10 &= 180 \\ 4y &= 190 \\ y &= 47.5 \end{aligned}$$

6. What do we know from the picture?

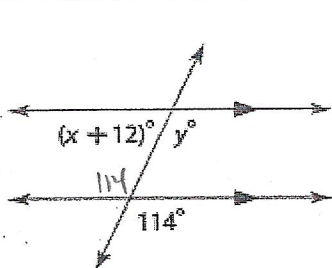


$$\begin{aligned} 8y - 4 &= 180 \\ 8y &= 184 \\ y &= 23 \\ 69 &= 2x + 13 \\ -13 & \\ 56 &= 2x \\ 28 &= x \end{aligned}$$

Statement	Justification
① $9x + 12 + 3x = 180$	① Supplementary
② $x = 14$	② simplify
③ $3x + 4y - 10 = 180$	③ Supplementary
④ $3(14) + 4y - 10 = 180$	④ substitution
⑤ $y = 37$	⑤ simplify

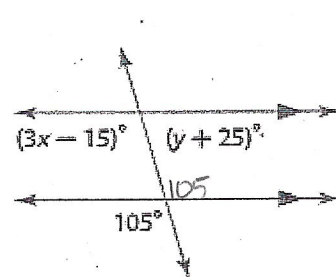
Statement	Justification
① $3y + 5y - 4 = 180$	① Consecutive
② $y = 23$	② Simplify
③ $3y = 2x + 13$	③ corresponding
④ $3(23) = 2x + 13$	④ substitute
⑤ $x = 28$	⑤ Simplify

7. What do we know from the picture?



$$\begin{aligned} 126 + x &= 180 \\ x &= -126 \\ x &= 54 \end{aligned}$$

8. What do we know from the picture?



$$\begin{aligned} 3x &= 120 \\ x &= 40 \\ 130 + y &= 180 \\ y &= 50 \end{aligned}$$

Statement	Justification
① $114 + x + 12 = 180$	① consecutive
② $x = 54$	② simplify
③ $y = 114$	③ corresponding

Statement	Justification
① $3x - 15 = 105$	① corresponding
② $x = 40$	② simplify
③ $105 + y + 25 = 180$	③ consecutive
④ $y = 50$	④ simplify