8-27-18 5th Geo

① $\angle A$ and $\angle B$ are vertical angles. If $\angle A = 6n - 1$ and $\angle B = 3n + 11$, what is the measurement of $\angle A$?

$\angle A = \angle B$

$6n - 1 = 3n + 11$

$-3n \quad -3n$

$3n - 1 = 11$

$+1 \quad +1$

$3n = 12$

$n = 4$

$\angle A = 6n - 1$

$= 6 \cdot 4 - 1$

$= 23^\circ$

② $\angle A$ and $\angle B$ are complementary angles. $\angle A = 3n + 10$ and $\angle B = 7n - 20$. What is $m\angle A$?

$\angle A + \angle B = 90^\circ$

$\downarrow \quad \downarrow$

$3n + 10 + 7n - 20 = 90^\circ$

$10n - 10 = 90^\circ$

$+10 \quad +10$

$10n = 100$

$n = 10$

$\angle A = 3n + 10$

$= 3 \cdot 10 + 10$

$= 40^\circ$

(3) $\angle A$ and $\angle B$ are a linear pair. If $\angle A = 6n$ and $\angle B = 4n + 50$, what is $m\angle A$?

$\angle A + \angle B = 180^\circ$

$\downarrow$

$6n + 4n + 50 = 180^\circ$

$10n + 50 = 180$

$-50 \quad -50$

$10n = 130$

$n = 13$

$\angle A = 6 \cdot 13$

$= 78^\circ$

(4) $\angle A$ and $\angle B$ are complementary angles. If $\angle A = 8n - 20$, what expression represents $\angle B$?

$\angle A + \angle B = 90^\circ$

$\downarrow$

$8n - 20 + \angle B = 90^\circ$

$-8n + 20 \qquad -8n + 20$

$\angle B = 110^\circ - 8n$

(5) $\angle A$ and $\angle B$ are supplementary. If $\angle A = 4n+10$ and $\angle B = 6n$, what is the value of n?

$\angle A + \angle B = 180$

$4n+10+6n = 180$

$10n+10 = 180$

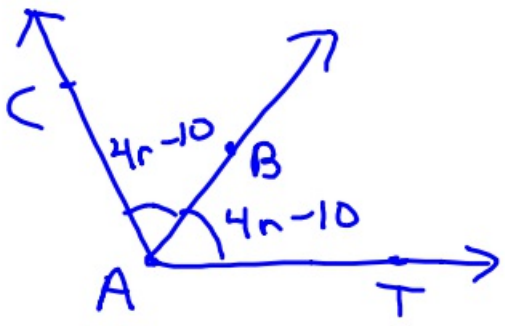
$-10 \quad -10$

$10n = 170$

$n = 17$

(6) $\overrightarrow{AB}$ bisects $\angle CAT$. If $\angle TAB = 4n-10$, what is $\angle CAB$?

$4n-10$



(7) $\angle A$ and $\angle B$ are a linear pair. If $\angle A = 2n - 3$, what expression represents $\angle B$?

$\angle A + \angle B = 180^\circ$

$\downarrow$

$2n - 3 + \angle B = 180^\circ$

$-2n + 3 \qquad -2n + 3$

$\angle B = 183 - 2n$

8-27-18 6th Geo

① $\angle A$ and $\angle B$ are vertical angles. $\angle A = 4n+8$ and $\angle B = 2n+14$. What is $m\angle A$?

$\angle A = \angle B$

$4n+8 = 2n+14$

$-2n \quad -2n$

$2n+8 = 14$

$-8 \quad -8$

$2n = 6$

$n = 3$

$\angle A = 4n+8$

$= 4 \cdot 3 + 8$

$= 20$

② $\angle A$ and $\angle B$ are complementary angles. If $\angle A = 4n+20$ and $\angle B = 6n-10$, what is $m\angle A$?

$\angle A + \angle B = 90^\circ$

$4n+20 + 6n-10 = 90^\circ$

$10n + 10 = 90^\circ$

$-10 \quad -10$

$10n = 80$

$n = 8$

$\angle A = 4n+20$

$4 \cdot 8 + 20$

52°

(3) $\angle A$ and $\angle B$ are a linear pair. If $\angle A = 3n$ and $\angle B = 7n - 20$, what is $m\angle A$?

$\therefore$

$\angle A + \angle B = 180^\circ$

$3n + 7n - 20 = 180^\circ$

$10n - 20 = 180^\circ$

$+20 \quad +20$

$10n = 200$

$n = 20$

$\angle A = 3 \cdot 20$

$= 60^\circ$

(4) If $\angle A$ and $\angle B$ are complementary angles with $\angle B = 4n - 10$, what expression represents $\angle A$?

$\angle A + \angle B = 90^\circ$

$\downarrow$

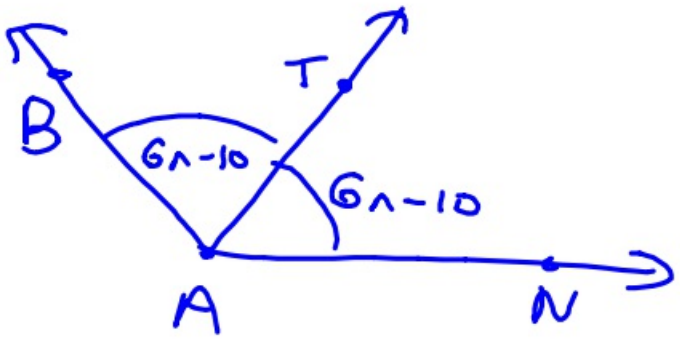
$\angle A + 4n - 10 = 90$

$-4n \quad +10 \qquad +10 \quad -4n$

$\angle A = 100 - 4n$

⑤ $\overrightarrow{AT}$ bisects $\angle BAN$.

If $\angle BAT = 6n - 10$, what is $\angle NAT$? $6n-10$



⑥ $\angle A$ and $\angle B$ are supplementary angles. If $\angle A = n + 80$ and $\angle B = 9n + 10$, what is n?

$\angle A + \angle B = 180^\circ$

$\downarrow \quad \downarrow$

$n + 80 + 9n + 10 = 180^\circ$

$10n + 90 = 180$

$-90 \quad -90$

$10n = 90$

$n = 9$