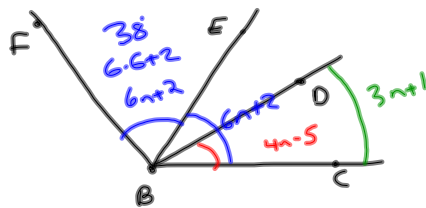


9-19-13

5th Geo

Questions from Ch. 1 Test

- (24) If $\angle FBC = 12n + 4$
and $\angle OBC = 4n - 5$, what
is the numerical value
of $\angle FBE$?



$$\begin{array}{r} 4n-5 = 3n+1 \\ -3n \quad -3n \\ \hline n-5 = 1 \\ +5 \quad +5 \\ \hline n = 6 \end{array}$$

(6)



$$AD + DB = AB$$

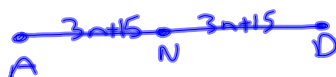
↓ ↓

$$AD + n = 3n$$

$$\underline{-n \quad -n}$$

$$AD = 2n$$

- (31) Let N be midpoint of \overline{AD}
with $AD = 8n - 10$ and
 $AN = 3n + 15$. What is n?



$$AN + ND = AD$$

$$\downarrow \quad \downarrow$$
$$3n+15 + 3n+15 = 8n-10$$

$$\begin{array}{r} 6n + 30 = 8n - 10 \\ -6n \quad -6n \\ \hline 30 = 2n - 10 \\ +10 \quad +10 \\ \hline 40 = 2n \\ \frac{40}{2} = \frac{2n}{2} \\ 20 = n \end{array}$$

$$20 = n$$

- 29) On \overline{AC} , B is the midpoint with
 $AB = 5n - 4$ and $BC = 3n + 10$.
 $AB = ?$ (numerical)

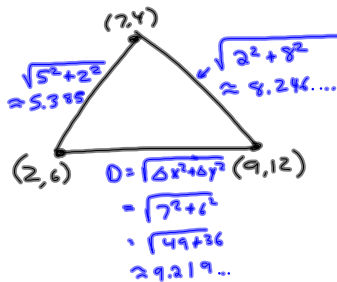
$$\begin{array}{c}
 \overbrace{5n-4} \quad \overbrace{3n+10} \\
 A \quad \quad B \quad \quad C \\
 5n-4 = 3n+10 \\
 \underline{-3n \quad -3n} \\
 2n-4 = 10 \\
 \underline{+4 \quad +4} \\
 2n = 14 \\
 n = 7
 \end{array}$$

$$\begin{aligned}
 AB &= 5(7) - 4 \\
 &= 35 - 4 \\
 &= 31
 \end{aligned}$$

Congruency \cong

BONUS Questions

- 1) What is perimeter of \triangle with
 vertices of
 $(2,6)$ $(7,4)$ $(9,12)$



$$\begin{aligned}
 \text{Perimeter} &= 9.219 + 8.246 + 5.385 \\
 &\approx 22.9
 \end{aligned}$$

- 2) $AB = 15$ If $A = (3,4)$ $B = (15,y)$
 what is y ?

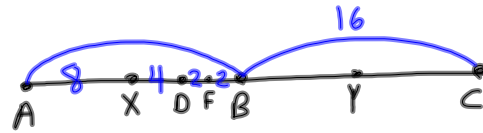


$$\begin{aligned}
 D &= \sqrt{\Delta x^2 + \Delta y^2} \\
 \downarrow \\
 15 &= \sqrt{12^2 + (4-y)^2} \\
 15 &= \sqrt{144 + (4-y)^2} = 225
 \end{aligned}$$

$$\begin{array}{r}
 144 + (4-y)^2 = 225 \\
 \underline{-144 \quad -144} \\
 (4-y)^2 = 81
 \end{array}$$

$$\begin{array}{r}
 4-y = 9 \quad \text{or} \quad 4-y = -9 \\
 \underline{-4 \quad -4} \quad \quad \underline{-4 \quad -} \\
 -y = 5 \quad \quad \quad -y = -13
 \end{array}$$

③



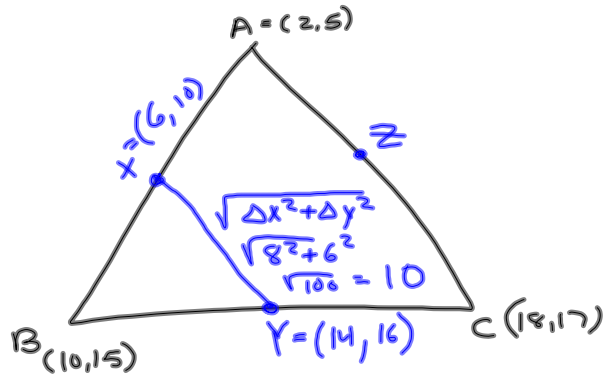
$$AC = 32$$

④

In $\triangle ABC$, X is midpoint of \overline{AB} , Y is midpoint of \overline{BC} , and Z is midpoint of \overline{AC} .

$$A = (2, 5) \quad B = (10, 15) \quad C = (18, 17)$$

What is XY?

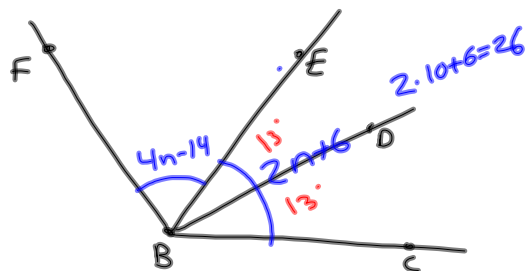


②③

$$\angle EBC = 2n + 6$$

$$\angle FBE = 4n - 14$$

$$\angle DBC = ?$$

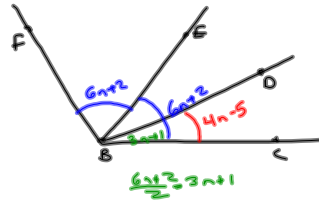


$$\begin{array}{r} 4n - 14 = 2n + 6 \\ \underline{-2n \quad -2n} \\ 2n - 14 = 6 \\ \underline{+14 \quad +14} \\ 2n = 20 \\ n = 10 \end{array}$$

9-19-13
6th Geo

Ch. 1 Test Questions

- (a) $\angle FBC = 12n + 4$
 $\angle DBC = 4n - 5$
 Numerical value of $\angle FBE = ?$



$$\begin{aligned} 3n + 1 &= 4n - 5 \\ -3n &\quad -3n \\ \hline 1 &= n - 5 \\ +5 &\quad +5 \\ \hline 6 &= n \end{aligned}$$

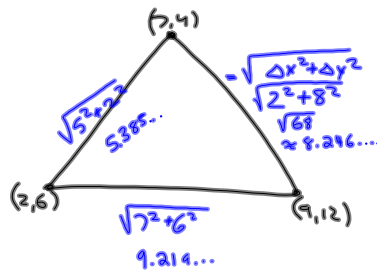
$\angle FBE = 6n + 2$
 $6(6) + 2$
 38

(2) Congruency \cong

BONUS

- (1) What is the perimeter of a Δ with the following vertices:

(2,6) (7,4) (9,12)



$5.385 + 9.214 + 8.246 \approx 22.9$

- (2) $AB = 15$
 $A = (3,4)$
 $B = (15,y)$
 What is y ?

$$D = \sqrt{\Delta x^2 + \Delta y^2}$$

\downarrow

$$15 = \sqrt{(15-3)^2 + (4-y)^2}$$

$$15 = \sqrt{144 + (4-y)^2} \quad 225$$

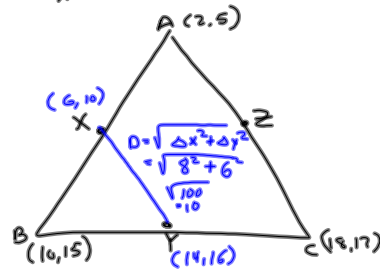
$$\begin{aligned} 144 + (4-y)^2 &= 225 \\ -144 &\quad -144 \\ \hline (4-y)^2 &= 81 \end{aligned}$$

③

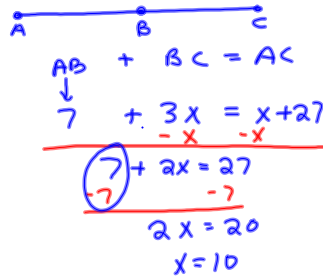


$$AC = 32$$

- ④ In $\triangle ABC$, X is midpoint of \overline{AB}
 Y is midpoint of \overline{BC}
 Z is midpoint of \overline{AC}
 $A = (2, 5)$ $B = (10, 15)$ $C = (18, 17)$
 $XY = ?$



- ③② B is between A and C.
 $AB = 7$ $BC = 3x$ $AC = x + 27$
 $BC = ?$

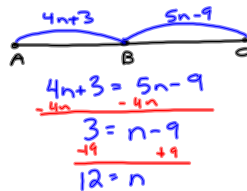


$$BC = 3 \cdot x$$

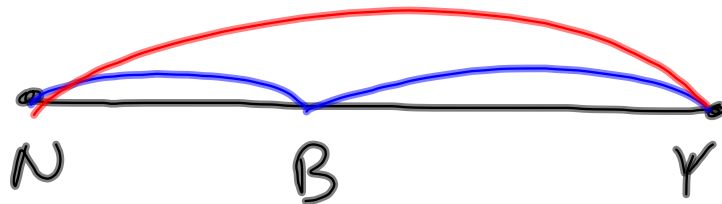
$$= 3 \cdot 10$$

$$= 30$$

- ②⑨ On \overline{AC} , B is midpoint with
 $AB = 4n + 3$ and $BC = 5n - 9$.
 What is n?



28



$$NB + BY = NY$$

↓ ↓

$$\begin{array}{r} 2n-1 + BY = 6n+5 \\ -2n+1 \qquad \qquad -2n+1 \\ \hline \end{array}$$

$$BY = 4n+6$$