9-12-13
5ᵗʰ Geo

Ch. 1 Review

① If $A = (1, 8)$ and $B = (2, 10)$, what is AB?

↑
distance from A to B.

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

$$= \sqrt{6^2 + 2^2}$$

$$= \sqrt{36 + 4}$$

$$= \sqrt{40}$$

$$\approx 6.3$$

② If B is between N and Y with $BN = 4n + 10$ and $NY = 6n + 5$, what is BY?

N •———— B •————————• Y

$$NB + BY = NY$$
↓   ↓   ↓
$$4n + 10 + BY = 6n + 5$$
$$-4n - 10 \qquad\qquad -4n - 10$$
$$BY = 2n - 5$$

③

10 C
a 6
b X
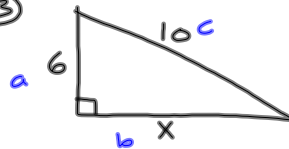
Pythagorean Thm: $a^2 + b^2 = c^2$

$$6^2 + x^2 = 10^2$$

$$36 + x^2 = 100$$
$$-36 \qquad -36$$
$$\sqrt{x^2} = \sqrt{64}$$
$$x = 8$$

④ $\overrightarrow{BN}$ bisects $\angle ABC$. If $\angle ABN = 4n - 10$, what is $\angle ABC$?

8n - 20°

A
4n-10   N
B
4n-10
C
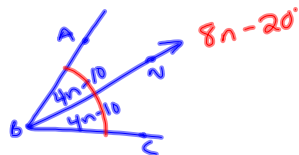
(5) Let C be the midpoint of $\overline{AY}$ with $AC=11$ and $AY = 6n-2$. What is n?

$$6n-2$$

A $\quad$ 3n-1 $\quad$ C $\quad$ 3n-1 $\quad$ Y

A $\quad$ 11
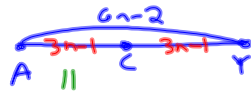
$$3n-1=11$$
$$\quad +1 \quad +1$$
$$3n=12$$
$$n=4$$

(6) Let T be the midpoint of $\overline{NS}$ with $NT= 3n+1$ and $TS=2n+4$. Find n.

N $\quad$ 3n+1 $\quad$ T $\quad$ 2n+4 $\quad$ S

$$3n+1=2n+4$$
$$-2n \quad\quad -2n$$
$$n+1=4$$
$$\quad -1 \quad -1$$
$$n=3$$

(7) What is the distance from $(1,2)$ to $(3,7)$?

$$D=\sqrt{\Delta x^2 + \Delta y^2}$$
$$=\sqrt{2^2 + 5^2}$$
$$=\sqrt{4+25}$$
$$=\sqrt{29}$$
$$\approx 5.4$$

(8)

20

12 $\quad$ 12

20
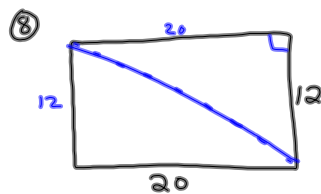
Find the length of the diagonal?
$$a^2+b^2=c^2$$
$$12^2+20^2=c^2$$
$$144+400=c^2$$
$$544=c^2$$
$$23.3 \approx c$$

9-12-13
6th Geo
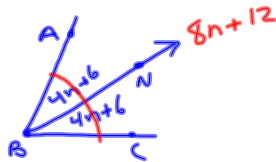
① If $A = (1, 4)$ and $B = (2, 7)$,
what is AB?

$$\text{Distance} = \sqrt{\Delta x^2 + \Delta y^2}$$
$$= \sqrt{1^2 + 3^2}$$
$$= \sqrt{1 + 9}$$
$$= \sqrt{10}$$
$$\approx 3.2$$
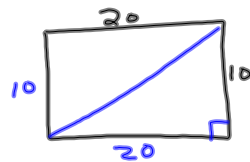
② If B is between A and C
with $AC = 4n+6$ and $BC = 2n-1$,
what is AB? Expression Answer.

$$AB + BC = AC$$
$$\downarrow \quad \downarrow \quad \downarrow$$
$$AB + 2n-1 = 4n+6$$
$$\underline{-2n+1 \quad -2n+1}$$

$$AB = 2n+7$$

③ $\overrightarrow{BN}$ bisects $\angle ABC$. If
$\angle CBN = 4n+6$, what is $\angle ABC$?

$8n+12$
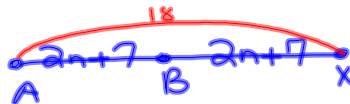
④ Find the length of the
diagonal in rectangle below.

$$a^2 + b^2 = c^2$$
$$10^2 + 20^2 = c^2$$
$$100 + 400 = c^2$$
$$\sqrt{500} = \sqrt{c^2}$$
$$22.4 \approx c$$

⑤ ∠A and ∠B are complementary angles. If ∠A = 2n − 10, what expression represents ∠B ?
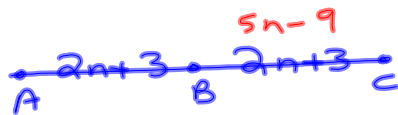
$$\angle A + \angle B = 90°$$

$$2n - 10 + \angle B = 90°$$
$$-2n + 10 \qquad -2n + 10$$

$$\angle B = 100° - 2n$$

$$(-2n + 100)$$

⑥ Let B be the midpoint of $\overline{AX}$. What is n if BX = 2n + 7 and AX = 18 ?

18

A 2n+7 • 2n+7 X
A   B   X

$$AB + BX = AX$$

$$2n+7 + 2n+7 = 18$$

$$4n + 14 = 18$$
$$\qquad -14 \quad -14$$

$$\frac{4n}{4} = \frac{4}{4}$$

$$n = 1$$

⑦ On $\overline{AC}$, B is the midpoint with AB = 2n+3 and BC = 5n−9. What is n?

5n−9

A 2n+3 • 2n+3 C
A   B   C

$$2n+3 = 5n-9$$
$$-2n \qquad -2n$$

$$3 = 3n - 9$$
$$+9 \qquad +9$$

$$\frac{12}{3} = \frac{3n}{3}$$

$$4 = n$$