

8-29-18 5<sup>th</sup> Geo

midpoint

(2, 7)

distance

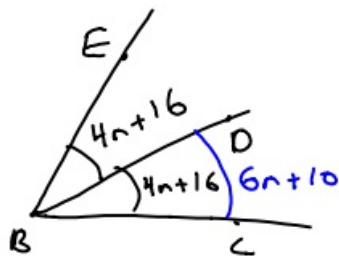
2.1

PT 1

(13) (-2, 3) (4, 7)

$$M = \left( \frac{-2+4}{2}, \frac{-3+7}{2} \right) \\ = (1, 2)$$

(22)



$$\begin{array}{r} 6n+10 = 4n+16 \\ \underline{-4n \quad -4n} \\ 2n+10 = 16 \\ \underline{-10 \quad -10} \\ 2n = 6 \\ n = 3 \end{array} \quad \begin{array}{l} \angle EBC = 8n+32 \\ = 8 \cdot 3 + 32 \\ = 24 + 32 \\ = 56 \end{array}$$

(27) A = (7, 15) B = (5, 10)

What is AB?

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

(30)  $\angle A + \angle B$  are a linear pair.

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

↓ ↓

$$n + 40 + 9n + 20 = 180^\circ$$

$$10n + 60 = 180^\circ$$

$$\underline{-60 \quad -60}$$

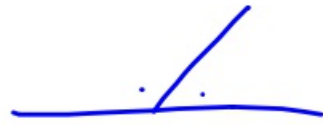
$$10n = 120$$

$$n = 12^\circ$$

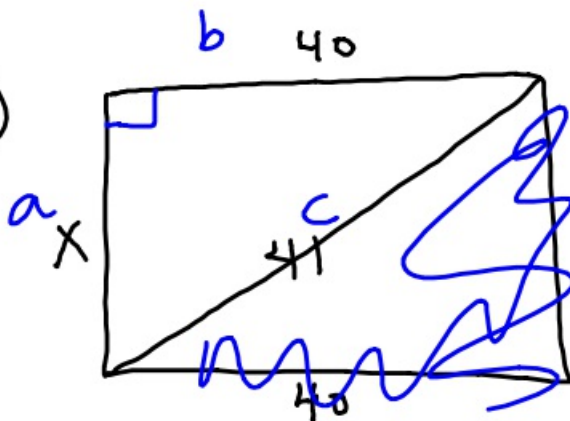
$$\angle B = 9n + 20$$

$$= 9 \cdot 12 + 20$$

$$= 128^\circ$$



(34)



$$x^2 + 40^2 = 41^2$$

$$x^2 + 1600 = 1681$$

$$\underline{-1600 \quad -1600}$$

$$x^2 = 81$$

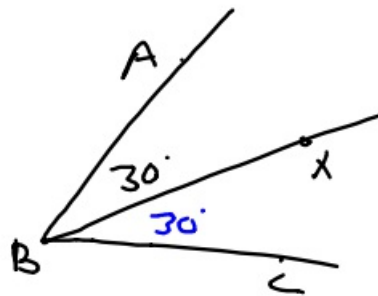
$$x = 9$$

②  $\angle A$  &  $\angle B$  are vertical  $\angle$ 's.

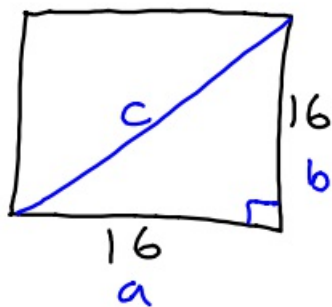
$$\begin{array}{r} \angle A = \angle B \\ \downarrow \quad \downarrow \\ 2n + 60 = 4n + 20 \\ -2n \quad -2n \\ \hline 60 = 2n + 20 \\ -20 \quad -20 \\ \hline 40 = 2n \\ n = 20 \end{array}$$

$$\begin{aligned} \angle B &= 4 \cdot 20 + 20 \\ &= 100^\circ \end{aligned}$$

⑤  $\vec{BX}$  bisects  $\angle ABC$



⑦



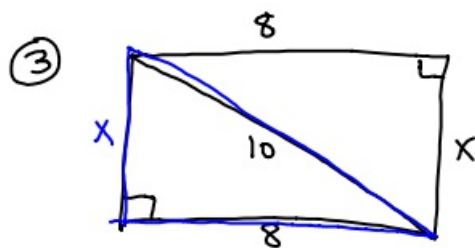
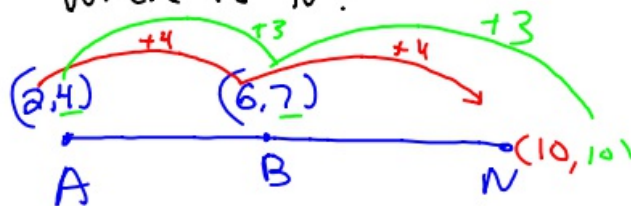
$$\begin{aligned} 16^2 + 16^2 &= c^2 \\ 256 + 256 &= c^2 \\ \sqrt{512} &= \sqrt{c^2} \\ c &\approx 22.6 \end{aligned}$$

## New practice

- ① Find the distance from  $(2, 3)$  to  $(-4, 10)$

$$\begin{aligned} D &= \sqrt{\Delta x^2 + \Delta y^2} \\ &= \sqrt{6^2 + 7^2} \\ &= \sqrt{36 + 49} \\ &= \sqrt{85} \\ &\approx 9.2 \end{aligned}$$

- ② B is midpoint of  $\overline{AN}$ .  
If  $A = (2, 4)$  and  $B = (6, 7)$ ,  
Where is N?



$$\begin{aligned} x^2 + 8^2 &= 10^2 \\ x^2 + 64 &= 100 \\ -64 \quad -64 \\ \hline x^2 &= 36 \\ x &= 6 \end{aligned}$$

④ If  $C$  is between  $X$  and  $T$   
 with  $CX = 4n + 2$ ,  $CT = 2n + 5$ ,  
 and  $XT = 8n - 4$ , what is  
 $n$ ?



$$XC + CT = XT$$

$$4n + 2 + 2n + 5 = 8n - 4$$

$$6n + 7 = 8n - 4$$

$$\begin{array}{r} -6n \qquad \qquad -6n \\ \hline 7 = 2n - 4 \\ +4 \qquad \qquad +4 \\ \hline 11 = 2n \end{array}$$

$$11 = 2n$$

$$n = 5\frac{1}{2}$$

$$XT = 8n - 4$$

$$8 \cdot 5\frac{1}{2} - 4$$

$$44 - 4$$

$$40$$

8-29-18 6<sup>th</sup> Geo

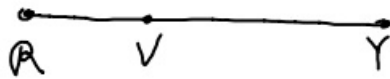
midpoint vs. distance

(2.7)

4.2 ft.

PT 1

9



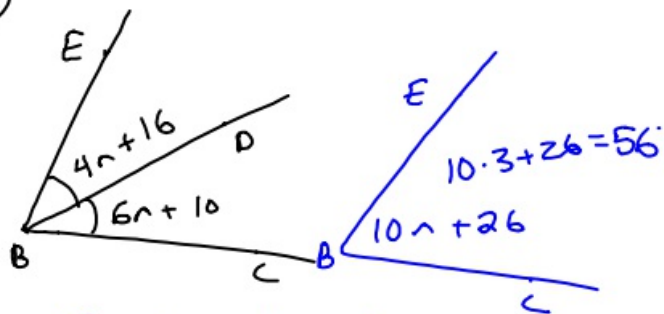
$$AV + VY = AY$$

$$AV + n + 10 = 30$$

$$\begin{array}{r} -n - 10 \\ \hline \end{array}$$

$$AV = 20 - n$$

22



$$6n + 10 = 4n + 16$$

$$\begin{array}{r} -4n \\ \hline \end{array}$$

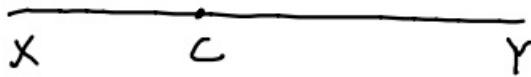
$$2n + 10 = 16$$

$$\begin{array}{r} -10 \\ \hline \end{array}$$

$$2n = 6$$

$$n = 3$$

(28)



$$XC + CY = XY$$

↓

$$8n-4 + n+10 = XY$$

$$9n+6 = XY$$

(27)

$$A = (\underline{7}, \underline{15}) \quad B = (\underline{5}, \underline{10})$$

What is  $AB$ ?

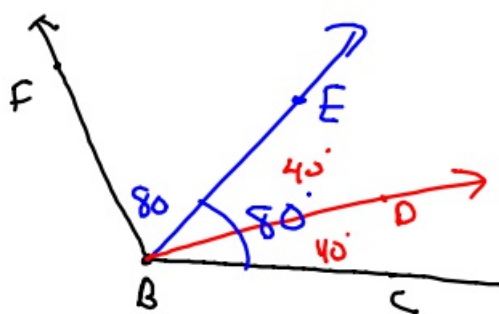
$$D = \sqrt{\Delta x^2 + \Delta y^2}$$

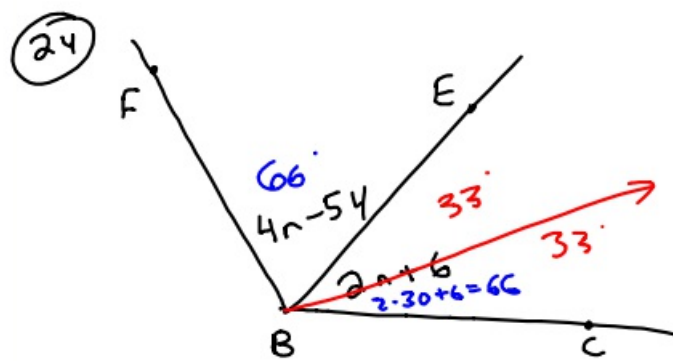
$$= \sqrt{2^2 + 5^2}$$

$$= \sqrt{29}$$

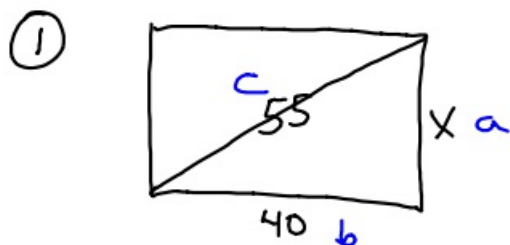
$$\approx 5.4$$

(23)





$$\begin{array}{r}
 4n - 54 = 2n + 6 \\
 -2n \quad -2n \\
 \hline
 2n - 54 = 6 \\
 +54 \quad +54 \\
 \hline
 2n = 60 \\
 n = 30
 \end{array}$$



$$x^2 + 40^2 = 55^2$$

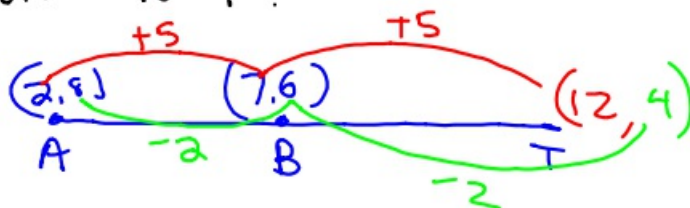
$$x^2 + 1600 = 3025$$

$$-1600 \quad -1600$$

$$\sqrt{x^2} = \sqrt{1425}$$

$$x \approx 37.7$$

(2) B is the midpoint of  $\overline{AT}$ .  
 If  $A = (2, 8)$  and  $B = (7, 6)$ ,  
 where is T?





- ③ B is between A and C with  
 $AB = 3n + 1$ ,  $BC = 2n + 4$ , and  
 $AC = 8n - 5$ . What is  $n$ ?



$$AB + BC = AC$$

$$\begin{array}{c} \downarrow \quad \downarrow \\ 3n+1 + 2n+4 = 8n-5 \end{array}$$

$$\begin{array}{r} 5n+5 = 8n-5 \\ -5n \quad -5n \\ \hline \end{array}$$

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

$$\frac{10}{3} = \frac{3n}{3}$$

$$(3.\bar{3}) \quad 3\frac{1}{3} = n$$

- ④ What is the distance from  
 $(\underline{2}, \underline{3})$  to  $(\underline{5}, \underline{-1})$ ?

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

$$= \sqrt{3^2 + 4^2}$$

$$= \sqrt{25}$$

$$= 5$$

⑤