

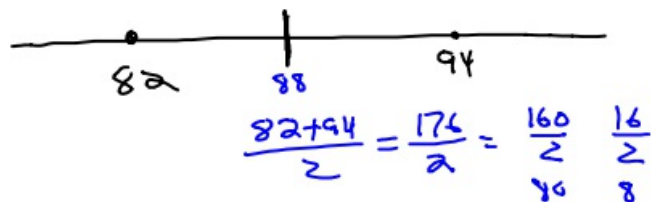
8-28-17 5<sup>th</sup> Geo

You scored a 70 on one test and 90 on the other. What is the middle grade?

80

$$\frac{70+90}{2}$$

What if your scores were 82 and 94?



middle point  $\rightarrow$  midpoint

① Find the midpoint of (3,7) and (13,21).

$$\left( \frac{3+13}{2}, \frac{7+21}{2} \right)$$

$$\left( \frac{16}{2}, \frac{28}{2} \right) = (8, 14)$$

② Find the midpoint between (-4,-10) and (8,-16).

$$\left( \frac{-4+8}{2}, \frac{-10+(-16)}{2} \right)$$

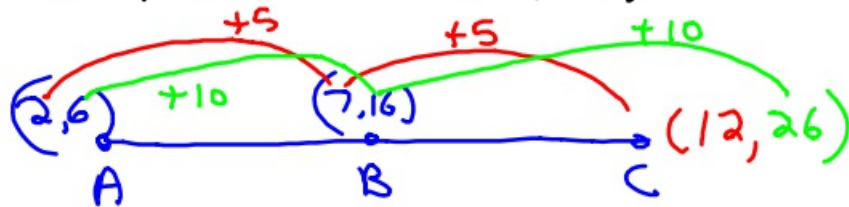
$$\left( \frac{4}{2}, \frac{-26}{2} \right)$$

$$(2, -13)$$



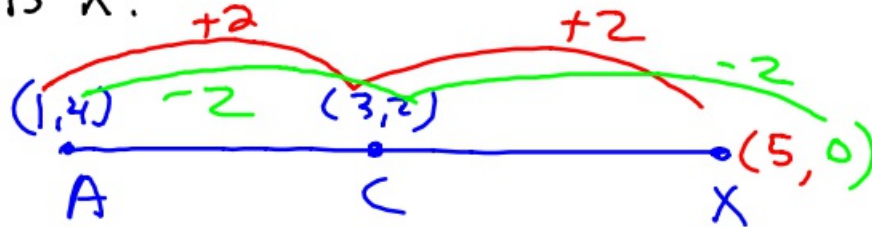
B is the midpoint of  $\overline{AC}$ . If

$A = (2, 6)$  and  $B = (7, 16)$ , where is C?



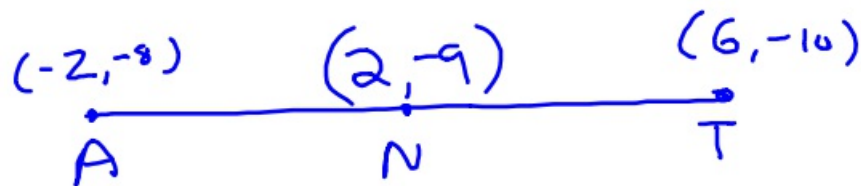
④ C is the midpoint of  $\overline{AX}$ .

If  $A = (1, 4)$  and  $C = (3, 2)$ , where is X?



⑤ N is the midpoint of  $\overline{AT}$ .

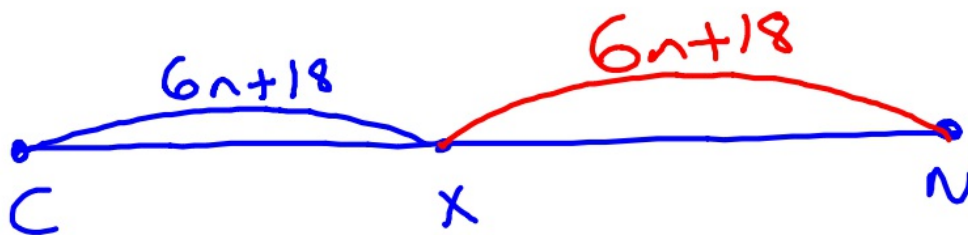
If  $A = (-2, -8)$  and  $T = (6, -10)$ , where is N?



$$\left( \frac{-2+6}{2}, \frac{-8+(-10)}{2} \right)$$

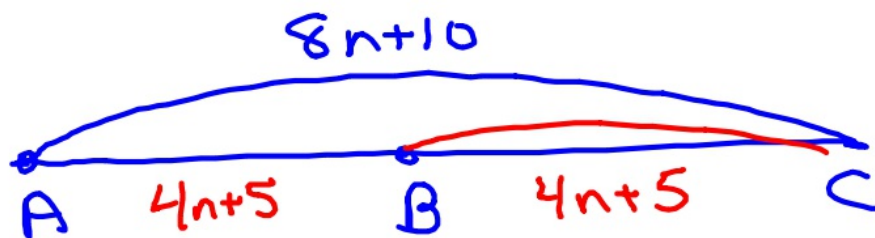
$$\left( \frac{4}{2}, \frac{-18}{2} \right)$$

- ⑥ If  $X$  is the midpoint of  $\overline{CN}$  and  $CX = 6n + 18$ , what is  $CN$ ?



$$12n + 36$$

- ⑦ If  $B$  is the midpoint of  $\overline{AC}$  and  $AC = 8n + 10$ , what is  $BC$ ?



8-28-17 6<sup>th</sup> Geo

What is the middle grade  
between 80 and 90?

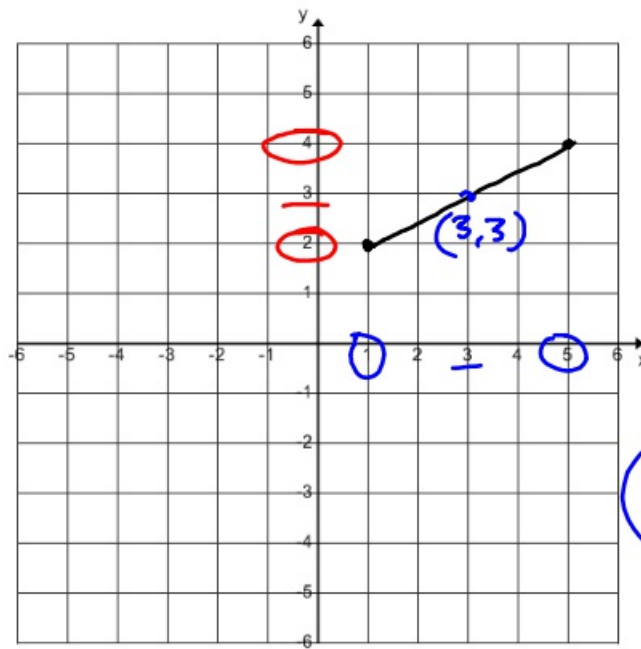
85

What about 72 and 86?

$$\frac{72 + 86}{2} = \frac{158}{2} = \frac{150}{2} \frac{8}{2}$$

75.4

(79)



Mid point

$$\begin{pmatrix} 1 & 2 \\ 5 & 4 \end{pmatrix}$$

$$\left( \frac{1+5}{2}, \frac{2+4}{2} \right)$$

$$(3, 3)$$

① What is the midpoint of  
(8, 7) and (18, 21)?

$$\left( \frac{8+18}{2}, \frac{7+21}{2} \right) = (13, 14)$$

② What is the midpoint of  
(-3, -10) and (7, -12)?

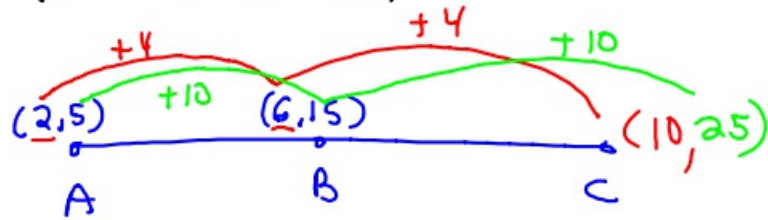
$$\left( \frac{-3+7}{2}, \frac{-10+-12}{2} \right)$$

$$(2, -11)$$

③ B is the midpoint of  $\overline{AC}$ .

If  $A = (2, 5)$  and  $B = (6, 15)$ ,

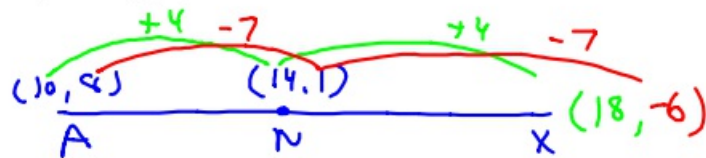
Where is C?



④ N is the midpoint of  $\overline{AX}$ . If

$A = (10, 8)$  and  $N = (14, 1)$ , where

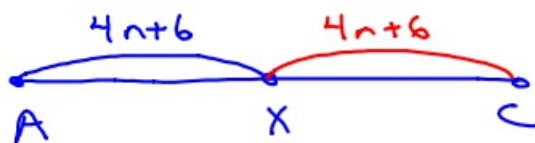
is X?



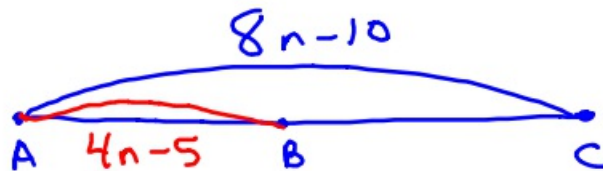
⑤ If X is the midpoint of  $\overline{AC}$

and  $AX = 4n + 6$ , what is

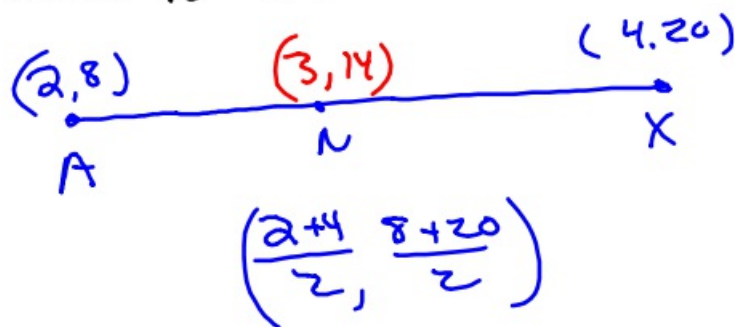
$XC$ ?



- ⑥ B is the midpoint of  $\overline{AC}$ . If  $AC = 8n - 10$ , what is  $AB$ ?  $4n - 5$



- ⑦ If N is the midpoint of  $\overline{AX}$  with  $A = (2, 8)$  and  $X = (4, 20)$ , what is N?



- ⑧ If P is the midpoint of  $\overline{AN}$  with  $AP = 8n + 2$ , what is  $AN$ ?  $16n + 4$

