9-6-13
5ᵗʰ Geo

Midpoint

endpoint   midpoint   endpoint

midpoint
=(4,3)

Find the midpoint of (2,7) and (3,17)

$$Midpoint = \left(\frac{2+3}{2}, \frac{7+17}{2}\right)$$

$$\left(2\frac{1}{2}, 12\right)$$

If I had to give a formula, it would be $\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$
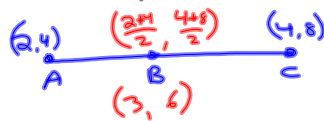
Find the midpoint of (-2,-3) and (-4,13)

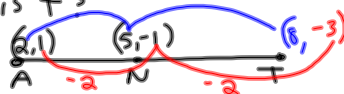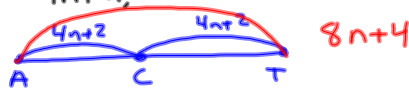$$midpoint = \left(\frac{-2+-4}{2}, \frac{-3+13}{2}\right)$$

$$(-3, 5)$$

1

midpoint
(1,2) (3,5) (5,8)
+3   +3
+2   +2

midpoint
(1,7) (4,17) (7,27)
+3   +3
+10   +10

midpoint
(-3,7) (-1,1) (1,-5)
+2   +2
-6   -6
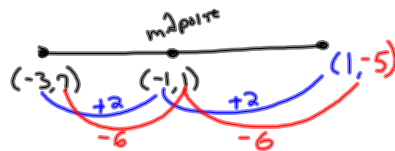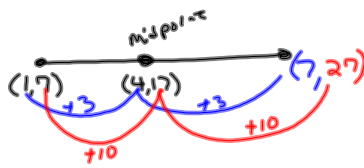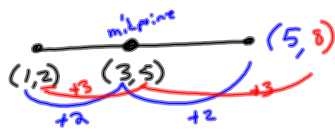
B is midpoint of $\overline{AC}$ with
A = (2,4) and C at (4,8).
Where is B?

(2,4) $\left(\frac{2+4}{2}, \frac{4+8}{2}\right)$ (4,8)
A   B   C
(3, 6)

N is midpoint of $\overline{AT}$ with
A = (2,1) and N = (5,-1). Where
is T?

(2,1) (5,-1) (8,-3)
A   -2   N   -2   T

C is midpoint of $\overline{AT}$. If
CT = 4n+2, what is AT?

4n+2   4n+2   8n+4
A   C   T

X is midpoint of $\overline{NR}$. If
NR = 8n+6, what is XR?

8n+6
N   X   4n+3   R
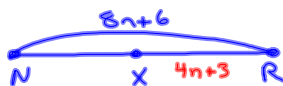
B is midpoint $\overline{TY}$. If
TB = 8n-2, what is BY? 8n-2

8n-2   8n-2
T   B   Y

9-6-13
6ᵗʰ Geo

Midpoint

midpoint - center

A ———•——— N ——— X
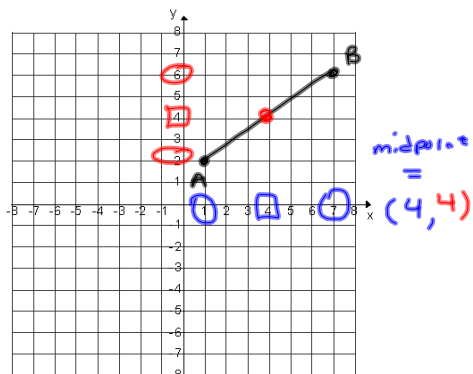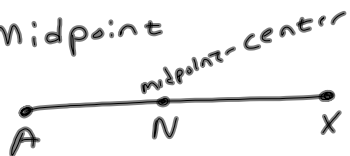
midpoint
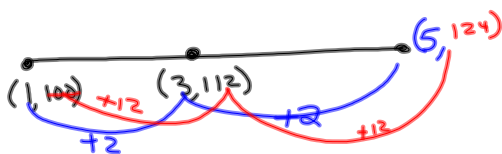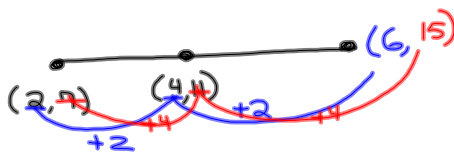=
$(4, 4)$

Find the midpoint of $(1, 6)$ and $(3, 16)$
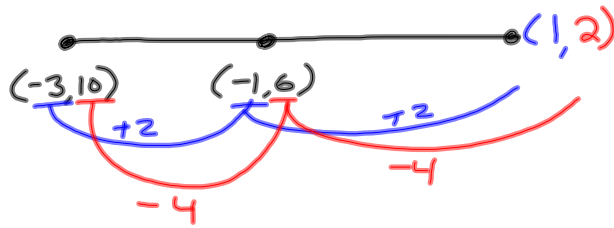
$$\frac{1+3}{2} \qquad \frac{6+16}{2}$$

$$(2, 11)$$

Find the midpoint of $(-2, 6)$ and $(-6, 1)$

$$\left(\frac{-2+-6}{2}, \quad \frac{6+1}{2} \right)$$
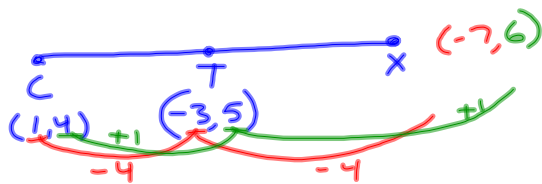
$$(-4, 3\tfrac{1}{2})$$

What is formula for midpoint

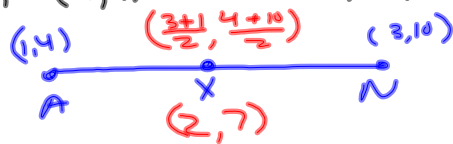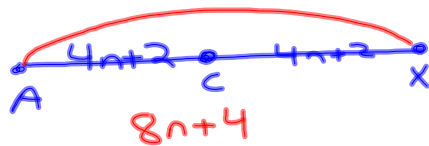$$\left(\frac{x_1 + x_2}{2}, \quad \frac{y_1 + y_2}{2} \right)$$

$(2, 7)$ $(4, 11)$ $(6, 15)$

+2   +4   +2   +4

$(1, 100)$ +12 $(3, 112)$ +2 $(5, 124)$

+2   +12

(-3,10)   (-1,6)   (1,2)

$+2$ $+2$
-4 -4
-4

T is midpoint of $\overline{CX}$. If
C = (1,4) and T = (-3,5), where
is X?

C   T   X   (-7,6)
(1,4) (-3,5)
$+1$ $+1$
-4 -4

X is midpoint of $\overline{AN}$. If
A = (1,4) and N = (3,10), where is X?

(1,4) $\left(\frac{3+1}{2}, \frac{4+10}{2}\right)$ (3,10)

A   X   N
(2,7)

C is midpoint of $\overline{AX}$. If
CA = 4n+2, what is AX?

$4n+2$ $4n+2$
A   C   X
$8n+4$

A is midpoint of $\overline{QZ}$. If
QZ = 6n-2, what is QA?

$6n-2$
Q   A   Z
$3n-1$