11. E

1. hét feladatainak megoldása

3462)

a) $A(6;6)$, $B(12;2)$

$F_{AB} = ?$

$F_{AB}\left(\frac{6+12}{2};\frac{6+2}{2}\right)$

$F_{AB}(9;4)$

b) $A(4;10)$, $B(10;1)$

$F_{AB} = ?$

$F_{AB}\left(\frac{4+10}{2};\frac{10+1}{2}\right)$

$F_{AB}\left(7;\frac{11}{2}\right)$

5,5 in jó!

c) $A\left(\frac{2}{3};\frac{3}{4}\right)$, $B\left(-4\frac{1}{2};5\frac{1}{3}\right)$

$F_{AB} = ?$

$F_{AB}\left(\frac{\frac{2}{3}+\left(-\frac{9}{2}\right)}{2};\frac{\frac{3}{4}+\frac{16}{3}}{2}\right)$

$F_{AB}\left(-\frac{23}{12};\frac{73}{24}\right)$

$-4\frac{1}{2} = -\frac{9}{2}$

$5\frac{1}{3} = \frac{16}{3}$

$\frac{2}{3} - \frac{9}{2} = \frac{4-27}{6} = -\frac{23}{6}$

$\frac{3}{4} + \frac{16}{3} = \frac{9+64}{12} = \frac{73}{12}$

3463)

$F_{AB}(-1;-1)$

$A(-4;6)$ $B(x_2;y_2)$

$x = \frac{x_1+x_2}{2}$

$-1 = \frac{-4+x_2}{2} \quad |\cdot 2$

$-2 = -4+x_2 \quad |+4$

$2 = x_2$

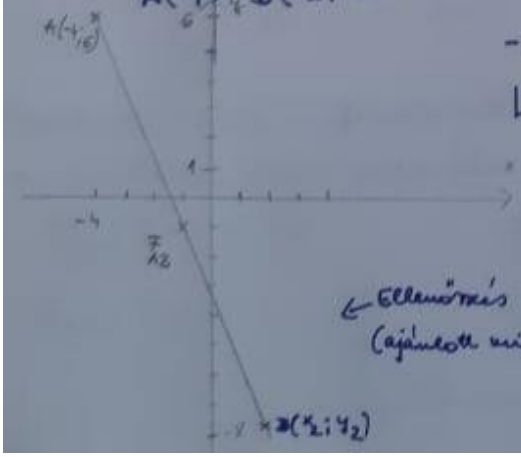
$y = \frac{y_1+y_2}{2}$

$-1 = \frac{6+y_2}{2} \quad |\cdot 2$

$-2 = 6+y_2 \quad |-6$

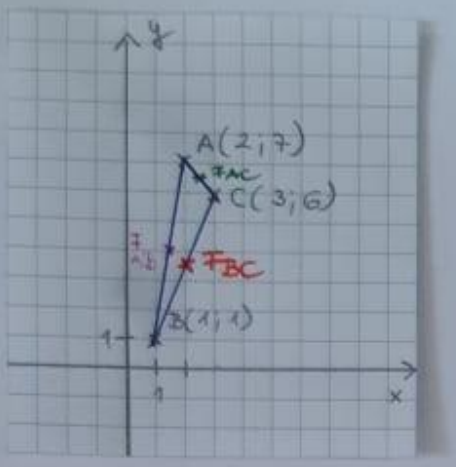
$-8 = y_2$

$B(2;-8)$



← Ellenőrzés (ajánlott minden esetben)

3464)



$A(2;7)$
$B(1;1)$

$F_{AB} = ?$

$F_{AB}\left(\frac{2+1}{2}; \frac{7+1}{2}\right)$

$\boxed{F_{AB}\left(\frac{3}{2}; 4\right)}$

$A(2;7)$
$C(3;6)$

$F_{AC} = ?$

$F_{AC}\left(\frac{2+3}{2}; \frac{7+6}{2}\right)$

$\boxed{F_{AC}\left(\frac{5}{2}; \frac{13}{2}\right)}$

$B(1;1)$
$C(3;6)$

$F_{BC} = ?$

$F_{BC}\left(\frac{1+3}{2}; \frac{1+6}{2}\right)$

$F_{BC}\left(\frac{4}{2}; \frac{7}{2}\right)$

$\boxed{F_{BC}\left(2; \frac{7}{2}\right)}$

CSAK ERŐS IDEGZETŰEKNEK!

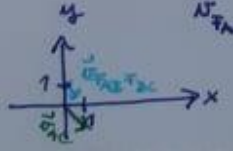
Igazoljuk, hogy 2 felezőpontot összekötő vektor párhuzamos a szemközti oldal vektorával!

$\vec{v}_{AC}(3-2; 6-7)$

$\vec{v}_{AC}(1; -1)$

$\vec{v}_{F_{AB}F_{BC}}\left(2-\frac{3}{2}; \frac{7}{2}-4\right)$

$\vec{v}_{F_{AB}F_{BC}}\left(\frac{1}{2}; -\frac{1}{2}\right)$



A két vektor párhuzamos, csak a 2. fele akkora, mint az 1.