

**Soluție**

1. a)  $\overrightarrow{MA} + \overrightarrow{CB} = \overrightarrow{MB} + \overrightarrow{CA} \Leftrightarrow \overrightarrow{MA} + \overrightarrow{AC} = \overrightarrow{MB} + \overrightarrow{BC} \Leftrightarrow \overrightarrow{MC} = \overrightarrow{MC}.$

b)  $\overrightarrow{MB} + \overrightarrow{MD} = 2 \cdot \overrightarrow{MC}; \overrightarrow{MB} + \overrightarrow{MD} + \overrightarrow{MC} = 3 \cdot \overrightarrow{MC} = \frac{3}{2} \cdot (\overrightarrow{MA} + \overrightarrow{ME}).$

2. a) Triunghiul  $ABC$  este dreptunghic în  $A$ .  $\sin A = 1$ ,  $\sin B = \frac{\sqrt{3}}{2}$ ,  $\sin C = \frac{1}{2}.$

b)  $\frac{BC}{\sin A} = \frac{AC}{\sin B}$ ,  $AC = 8\sqrt{2}.$

3. a)  $AB = \sqrt{50}$ ,  $BC = \sqrt{40}$ ,  $AC = \sqrt{50}.$  Triunghiul  $ABC$  este isoscel.

b)  $AB: 7x - y - 22 = 0; d(C, AB) = 4\sqrt{2}.$