

① Area of the triangle:

- Form two edge-vectors from the base point $(0,0)$:

$$u = (-1, 4) - (0, 0) = (-1, 4),$$

$$v = (7, -2) - (0, 0) = (7, -2)$$

- The signed area is $\frac{1}{2} \det[u, v]$, where

$$\begin{aligned} \det \begin{pmatrix} -1 & 7 \\ 4 & -2 \end{pmatrix} &= (-1)(-2) - (4)(7) \\ &= 2 - 28 = -26 \end{aligned}$$

- Take absolute value and put in triangle:

$$\text{Area of } \Delta = \frac{1}{2} |-26| = \boxed{13}$$

② Volume of the parallelepiped:

- Given 3 vectors in \mathbb{R}^3 :

$$a = \begin{pmatrix} -2 \\ 0 \\ -1 \end{pmatrix}, \quad b = \begin{pmatrix} 1 \\ 2 \\ 8 \end{pmatrix}, \quad c = \begin{pmatrix} -2 \\ 0 \\ -1 \end{pmatrix}$$

- The volume is $|\det[a \ b \ c]|$

But here, $c = a$, so two columns of the 3×3 matrix are identical.
Hence

$$\det[a \ b \ c] = 0$$

and therefore

$$\boxed{\text{Volume of Parallelepiped} = 0}$$