Equating Coefficients in Vectors
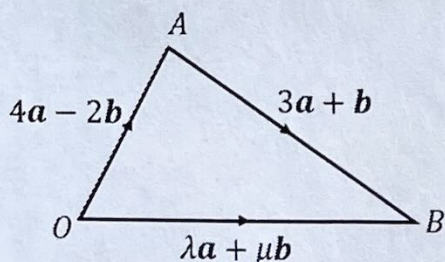
Find the values of λ and μ by equating coefficients of a and b.

(a) $4a + \lambda b = \mu a + 6b$
(b) $\lambda a - 5b = -2a + \mu b$
(c) $\lambda a + \mu b = 2a + 6b + 3a - 3b$
(d) $-3a + \lambda b = 2a - b + \mu a + 5b$
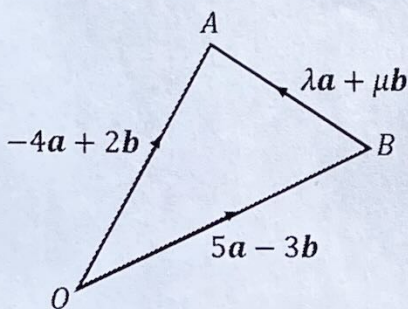(e) $2(2a - \mu b) + 3a + 10b = \lambda a + 6b$

(a) $\mu = 4$, $\lambda = 6$
(b) $\lambda = -2$, $\mu = -5$
(c) $\lambda = 5$, $\mu = 3$
(d) $\mu = -5$, $\lambda = 4$
(e) $\lambda = 7$, $\mu = 2$
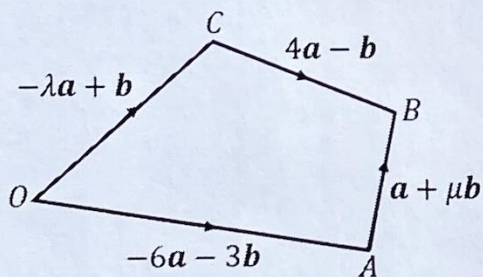
In the vector diagrams shown, find the values of λ and μ.
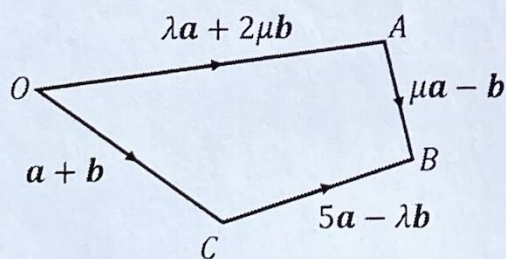
(a)

(a) $\lambda = 7$, $\mu = -1$

(b)

(b) $\lambda = -9$, $\mu = 5$

In the vector diagrams shown, find the values of λ and μ.

(a)

(a) $\lambda = 9$, $\mu = 3$

(b)

(b) $6a + (1-\lambda)b = (\lambda + \mu)a + (2\mu - 1)b$

$6 = \lambda + \mu$
$1 - \lambda = 2\mu - 1$
$\lambda = 10$, $\mu = -4$