

## embedding 1 [1, -1, -1, -2]

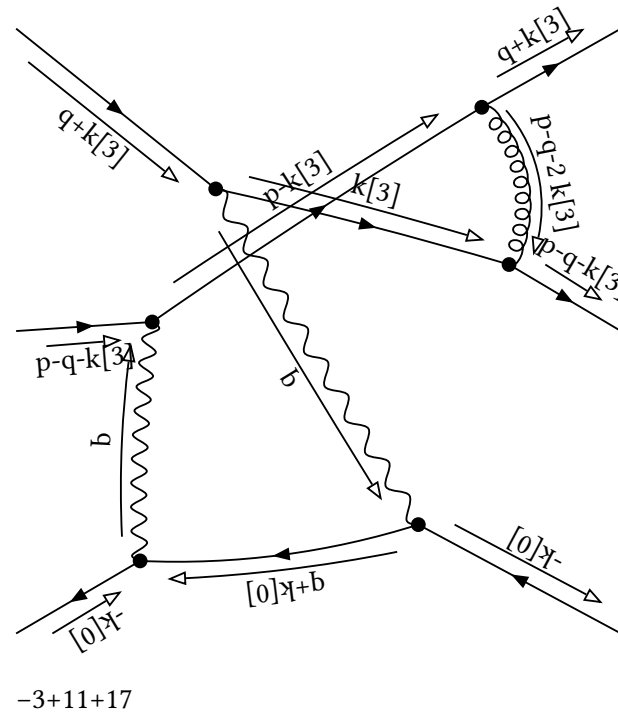
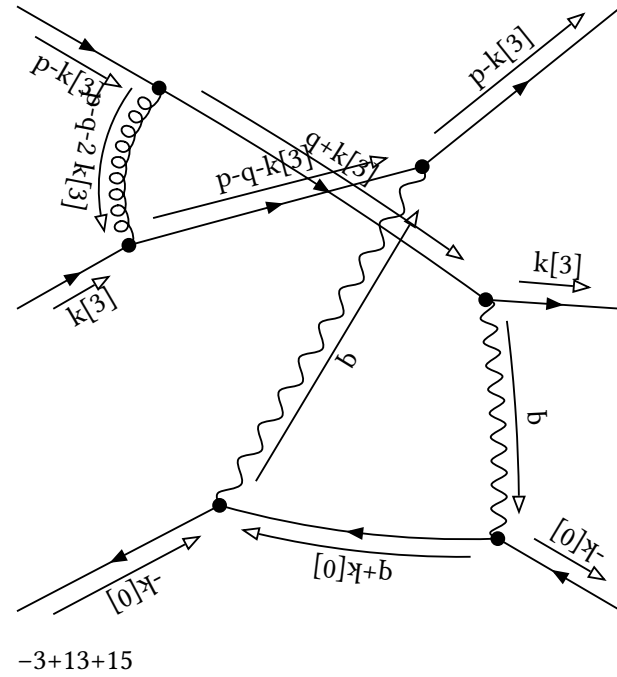
### initial

Denominator:

$$\text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p-k[3]]^{-1} \text{prop}[0, p-q-k[3]]^{-1} \text{prop}[0, p-q-2 k[3]]^{-1}$$

Partial Fractioned Denominator:

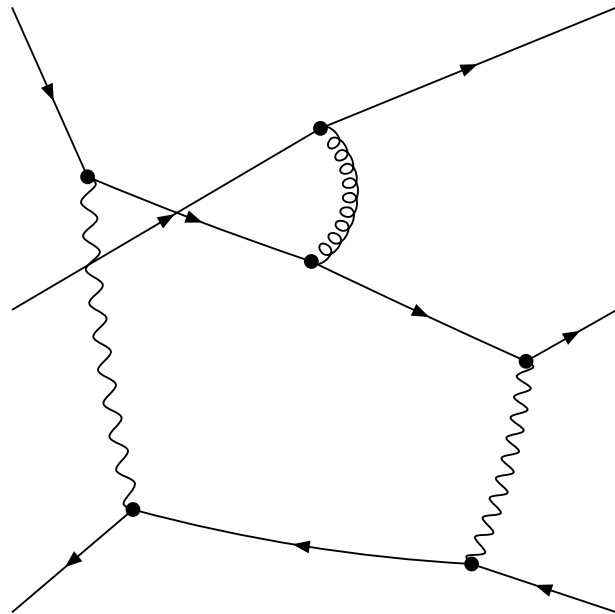
$$\begin{aligned} & -1/2 (1/2 \text{dot}[p, p] - \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p-k[3]]^{-1} \\ & + (1/2 \text{dot}[p, p] - \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p-q-2 k[3]]^{-1} \\ & + (1/2 \text{dot}[p, p] - \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, p-k[3]]^{-1} \text{prop}[0, p-q-2 k[3]]^{-1} \\ & - 1/2 (1/2 \text{dot}[p, p] - \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p-k[3]]^{-1} \text{prop}[0, p-q-k[3]]^{-1} \\ & + (1/2 \text{dot}[p, p] - \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p-q-k[3]]^{-1} \text{prop}[0, p-q-2 k[3]]^{-1} \\ & + (1/2 \text{dot}[p, p] - \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, p-k[3]]^{-1} \text{prop}[0, p-q-k[3]]^{-1} \text{prop}[0, p-q-2 k[3]]^{-1} \\ & + 1/4 (1/2 \text{dot}[p, p] - \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p-k[3]]^{-1} \text{dot}[p, q]^{-1} \\ & - 1/4 (1/2 \text{dot}[p, p] - \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p-q-k[3]]^{-1} \text{dot}[p, q]^{-1} \\ & - 1/4 (1/2 \text{dot}[p, p] - \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, p-k[3]]^{-1} \text{prop}[0, p-q-k[3]]^{-1} \text{dot}[p, q]^{-1} \\ & + 1/4 (1/2 \text{dot}[p, p] - \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p-k[3]]^{-1} \text{prop}[0, p-q-k[3]]^{-1} \text{dot}[p, q]^{-1} \end{aligned}$$



**final**

Denominator:

$\text{prop}[0,k[3]]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{prop}[0,p-q-k[3]]^{-1} \text{prop}[0,p-2 \ q-k[3]]^{-1} \text{prop}[0,p-2 \ q-2 \ k[3]]^{-1}$



$-1+15+17$

## embedding 2 [1, 0, -2, -1]

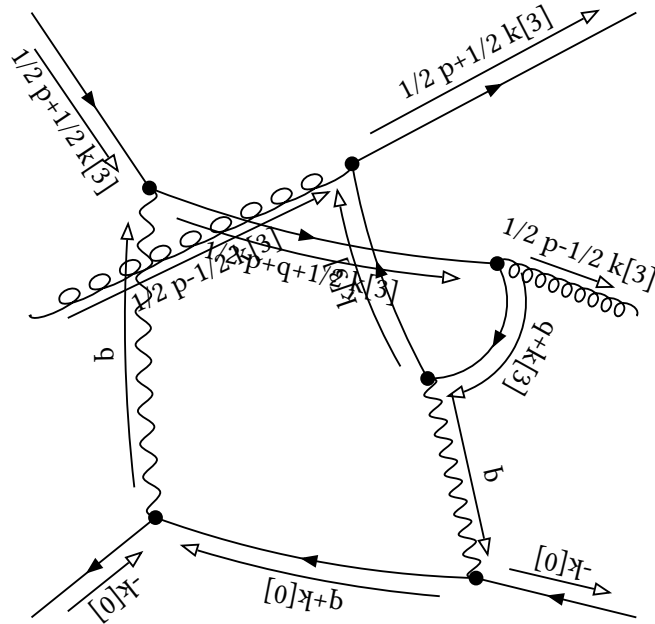
### initial

Denominator:

$$\text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, 1/2 p+1/2 k[3]]^{-1} \text{prop}[0, 1/2 p-1/2 k[3]]^{-1} \text{prop}[0, 1/2 p+q+1/2 k[3]]^{-1}$$

Partial Fractioned Denominator:

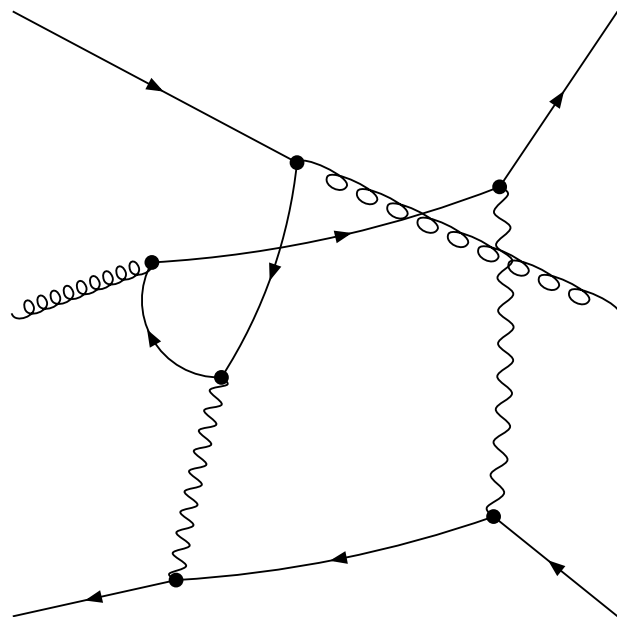
$$\begin{aligned} & -4 (-2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, 1/2 p+1/2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & +4 (-2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, 1/2 p+q+1/2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & +2 (-2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, 1/2 p+1/2 k[3]]^{-1} \text{prop}[0, 1/2 p+q+1/2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & -2 (-2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, 1/2 p+1/2 k[3]]^{-1} \text{prop}[0, 1/2 p+q+1/2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & -4 (-\text{dot}[p, p] - 2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, 1/2 p-1/2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & -4 (-\text{dot}[p, p] - 2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, 1/2 p+q+1/2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & +2 (-\text{dot}[p, p] - 2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, 1/2 p-1/2 k[3]]^{-1} \text{prop}[0, 1/2 p+q+1/2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & +2 (-\text{dot}[p, p] - 2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, 1/2 p+1/2 k[3]]^{-1} \text{prop}[0, 1/2 p-1/2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & +2 (-\text{dot}[p, p] - 2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, 1/2 p+1/2 k[3]]^{-1} \text{prop}[0, 1/2 p+q+1/2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & -(-\text{dot}[p, p] - 2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, 1/2 p+1/2 k[3]]^{-1} \text{prop}[0, 1/2 p-1/2 k[3]]^{-1} \text{prop}[0, 1/2 p+q+1/2 k[3]]^{-1} \text{dot}[p, p]^{-1} \end{aligned}$$



**final**

Denominator:

$\text{prop}[0,k[3]]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{prop}[0,1/2 \ p+1/2 \ q+1/2 \ k[3]]^{-1} \text{prop}[0,1/2 \ p-1/2 \ q+1/2 \ k[3]]^{-1} \text{prop}[0,1/2 \ p-1/2 \ q-1/2 \ k[3]]^{-1}$



-1+9+15

## embedding 3 [1, 0, -1, -2]

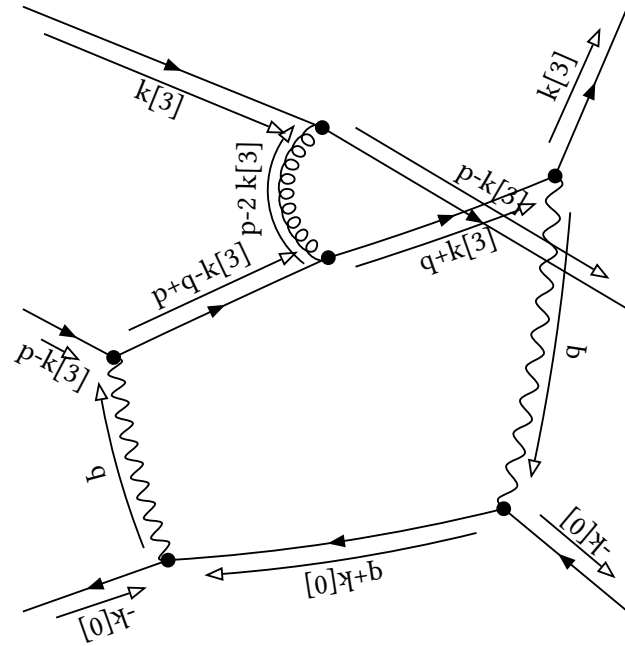
### initial

Denominator:

$$\text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p-k[3]]^{-1} \text{prop}[0, p-2 k[3]]^{-1} \text{prop}[0, p+q-k[3]]^{-1}$$

Partial Fractioned Denominator:

$$\begin{aligned} & -(2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p-k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & + (2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p+q-k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & - (2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, p-k[3]]^{-1} \text{prop}[0, p+q-k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & + (2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p-k[3]]^{-1} \text{prop}[0, p+q-k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & + 2 (1/2 \text{dot}[p, p] + 2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p-2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & - (1/2 \text{dot}[p, p] + 2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p+q-k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & + 2 (1/2 \text{dot}[p, p] + 2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, p-2 k[3]]^{-1} \text{prop}[0, p+q-k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & + 2 (1/2 \text{dot}[p, p] + 2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p-k[3]]^{-1} \text{prop}[0, p-2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & - (1/2 \text{dot}[p, p] + 2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p-k[3]]^{-1} \text{prop}[0, p+q-k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & + 2 (1/2 \text{dot}[p, p] + 2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, p-k[3]]^{-1} \text{prop}[0, p-2 k[3]]^{-1} \text{prop}[0, p+q-k[3]]^{-1} \text{dot}[p, p]^{-1} \end{aligned}$$

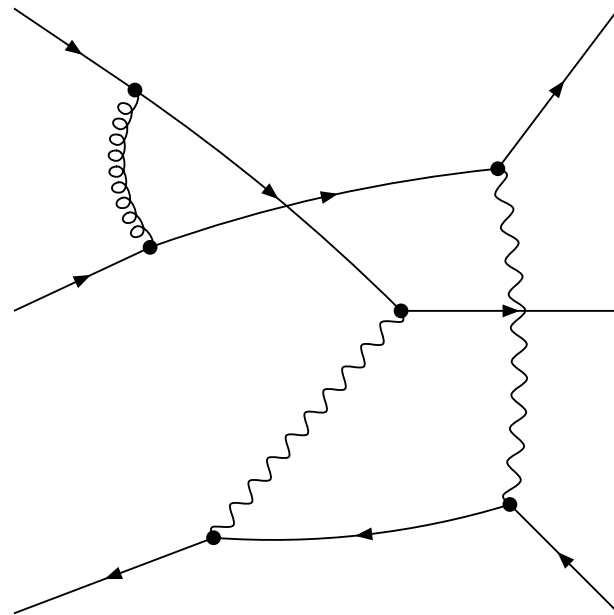


$$-3+11+13$$

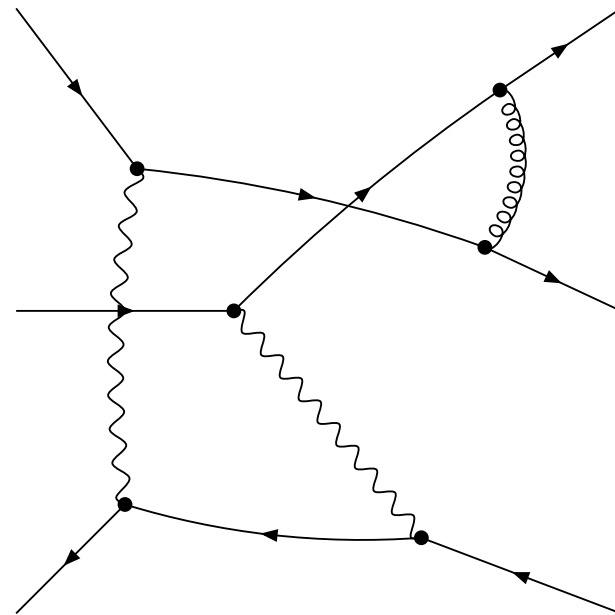
**final**

Denominator:

$\text{prop}[0,k[3]]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{prop}[0,p-k[3]]^{-1} \text{prop}[0,p-q-k[3]]^{-1} \text{prop}[0,p-q-2 k[3]]^{-1}$



$-1+13+15$



$-1+11+17$

embedding 4 [1, 0, -1, -1]

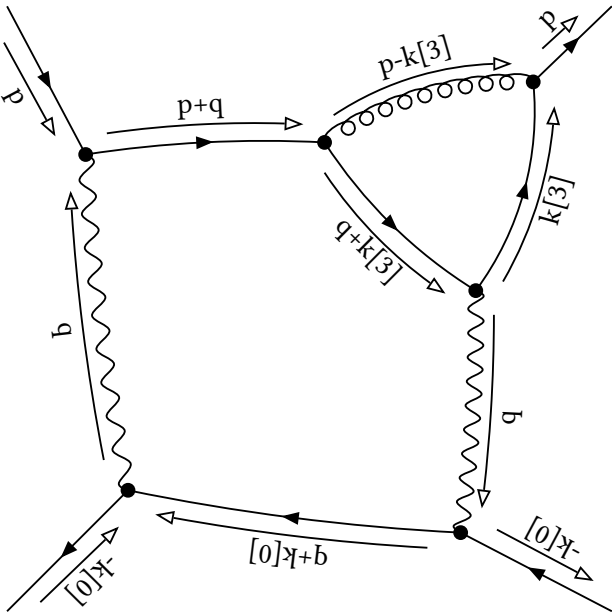
initial

Denominator:

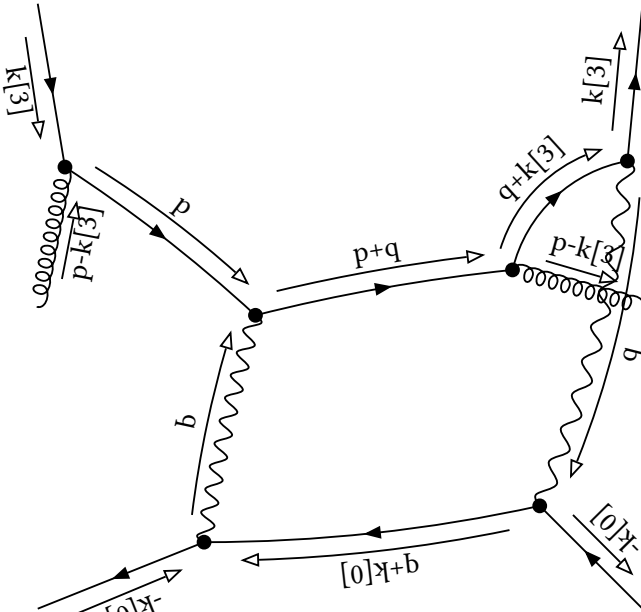
$\text{prop}[0,p]^{-1} \text{prop}[0,k[3]]^{-1} \text{prop}[0,p+q]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{prop}[0,p-k[3]]^{-1}$

Partial Fractioned Denominator:

$(\text{dot}[p,p]+2 \text{dot}[p,q]+\text{dot}[q,q])^{-1} \text{prop}[0,k[3]]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{prop}[0,p-k[3]]^{-1} \text{dot}[p,p]^{-1}$



-3+11

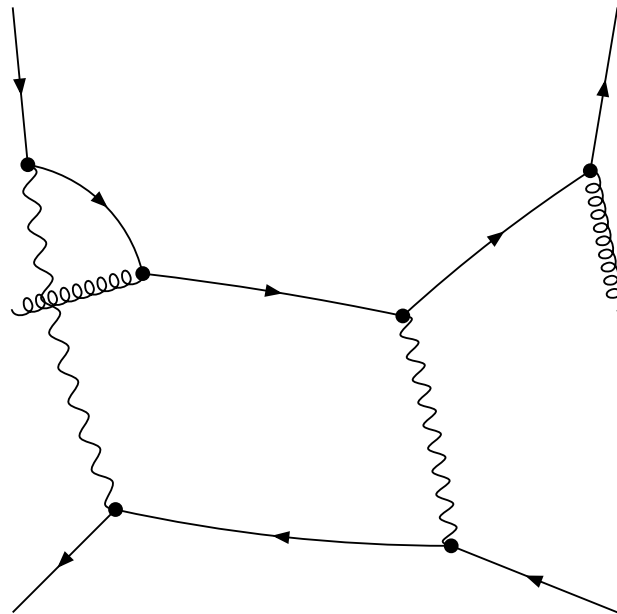


-3+9+13

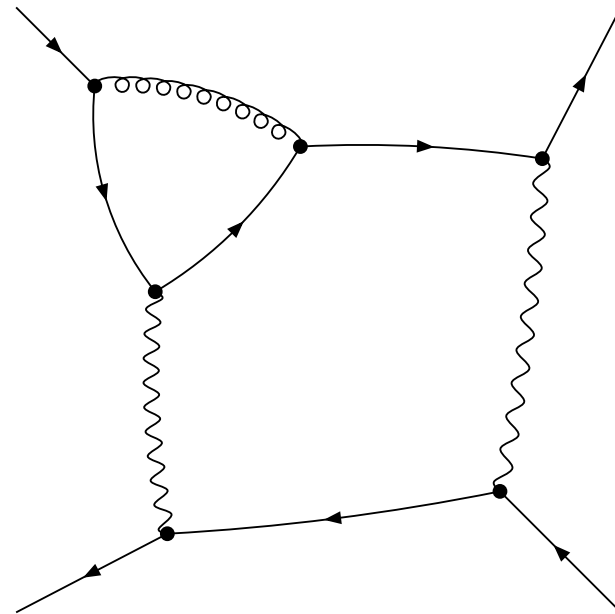
**final**

Denominator:

$\text{prop}[0,p]^{-1} \text{prop}[0,k[3]]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{prop}[0,p-q]^{-1} \text{prop}[0,p-q-k[3]]^{-1}$



$-1+9+17$



$-1+15$



## embedding 5 [1, 0, -1, 0]

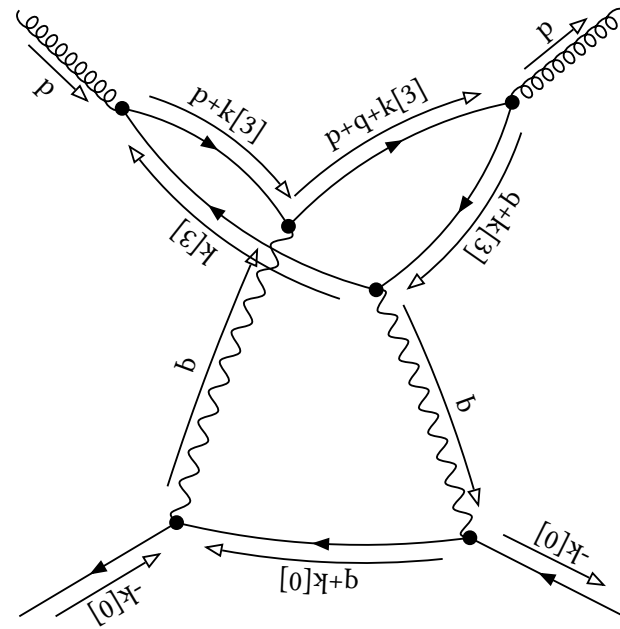
### initial

Denominator:

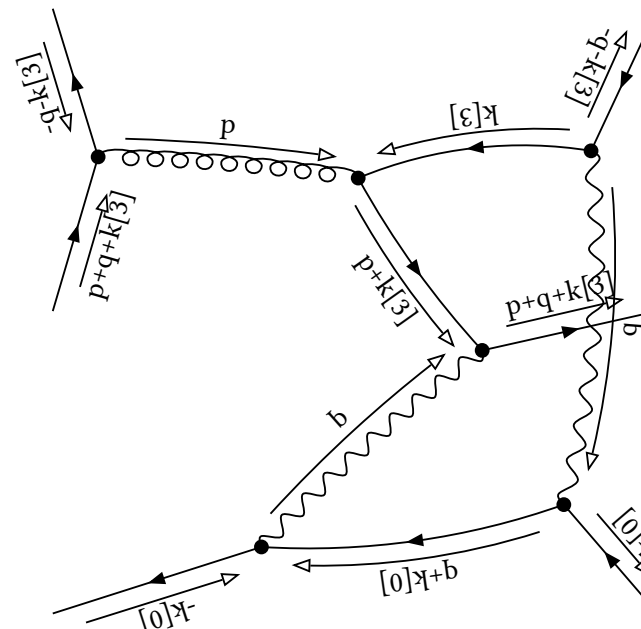
$$\text{prop}[0,p]^{-1} \text{prop}[0,k[3]]^{-1} \text{prop}[0,p+k[3]]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{prop}[0,p+q+k[3]]^{-1}$$

Partial Fractioned Denominator:

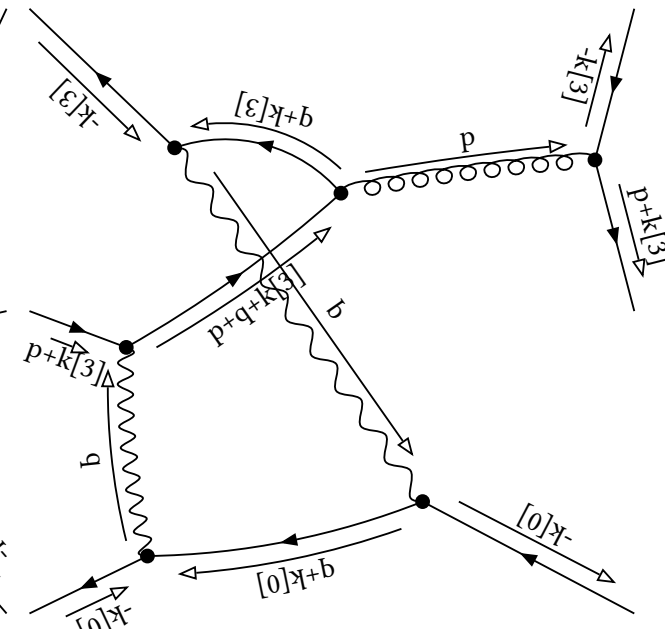
$$\begin{aligned} &1/2 \text{prop}[0,k[3]]^{-1} \text{prop}[0,p+k[3]]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{dot}[p,p]^{-1} \text{dot}[p,q]^{-1} \\ &-1/2 \text{prop}[0,k[3]]^{-1} \text{prop}[0,p+k[3]]^{-1} \text{prop}[0,p+q+k[3]]^{-1} \text{dot}[p,p]^{-1} \text{dot}[p,q]^{-1} \\ &-1/2 \text{prop}[0,k[3]]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{prop}[0,p+q+k[3]]^{-1} \text{dot}[p,p]^{-1} \text{dot}[p,q]^{-1} \\ &+1/2 \text{prop}[0,p+k[3]]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{prop}[0,p+q+k[3]]^{-1} \text{dot}[p,p]^{-1} \text{dot}[p,q]^{-1} \end{aligned}$$



-3+9



-3+15-17

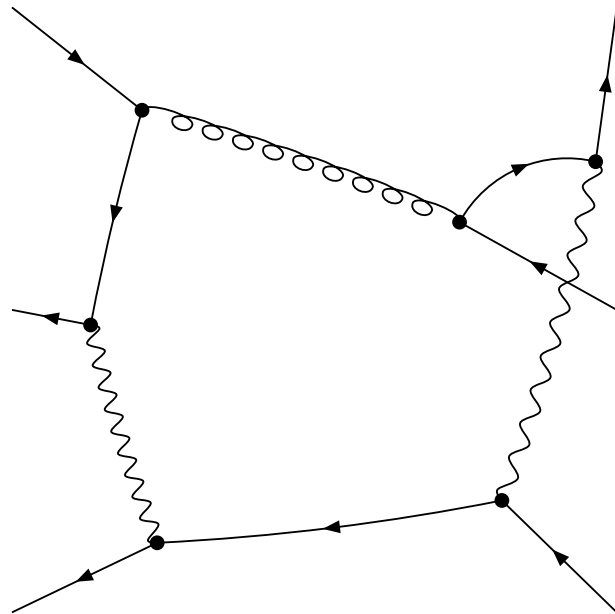


-3+11-13

**final**

Denominator:

$\text{prop}[0,k[3]]^{-1} \text{prop}[0,p+k[3]]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{prop}[0,p-q]^{-1} \text{prop}[0,p-q+k[3]]^{-1}$



-1-13+15

embedding 6 [1, 0, 0, -1]

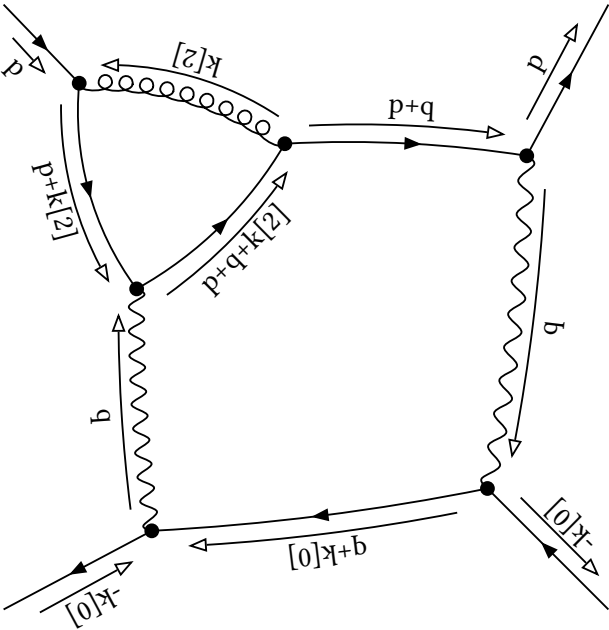
initial

Denominator:

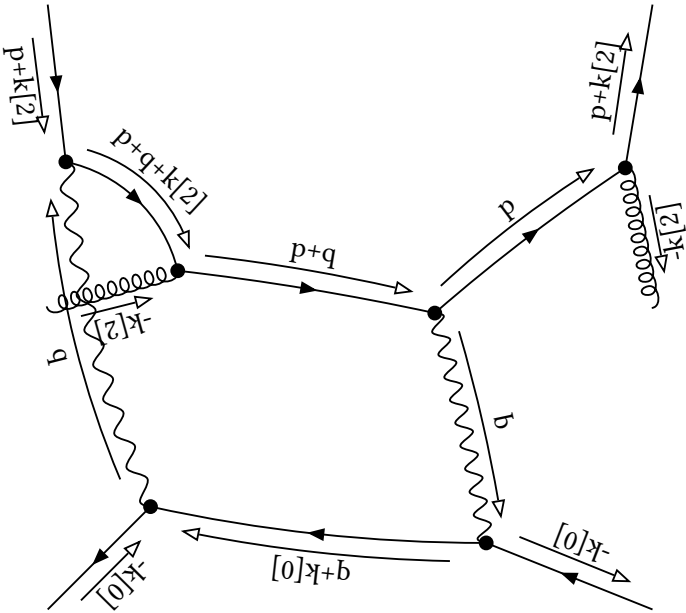
$\text{prop}[0,p]^{-1} \text{prop}[0,k[2]]^{-1} \text{prop}[0,p+q]^{-1} \text{prop}[0,p+k[2]]^{-1} \text{prop}[0,p+q+k[2]]^{-1}$

Partial Fractioned Denominator:

$(\text{dot}[p,p]+2 \text{dot}[p,q]+\text{dot}[q,q])^{-1} \text{prop}[0,k[2]]^{-1} \text{prop}[0,p+k[2]]^{-1} \text{prop}[0,p+q+k[2]]^{-1} \text{dot}[p,p]^{-1}$



-3+13

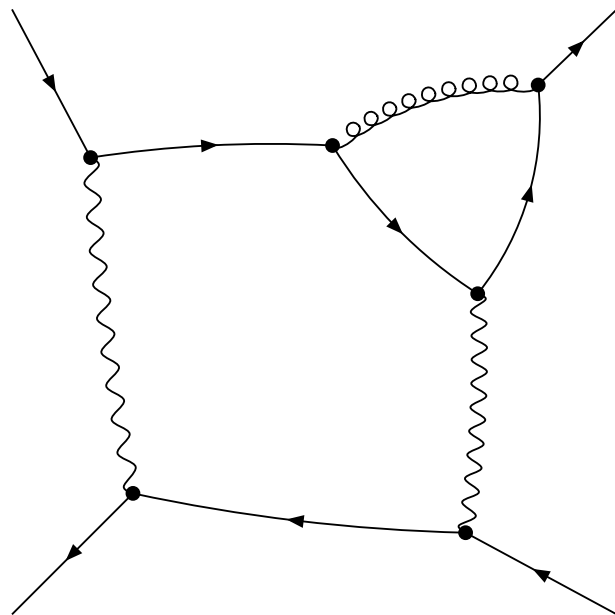


-3-9+11

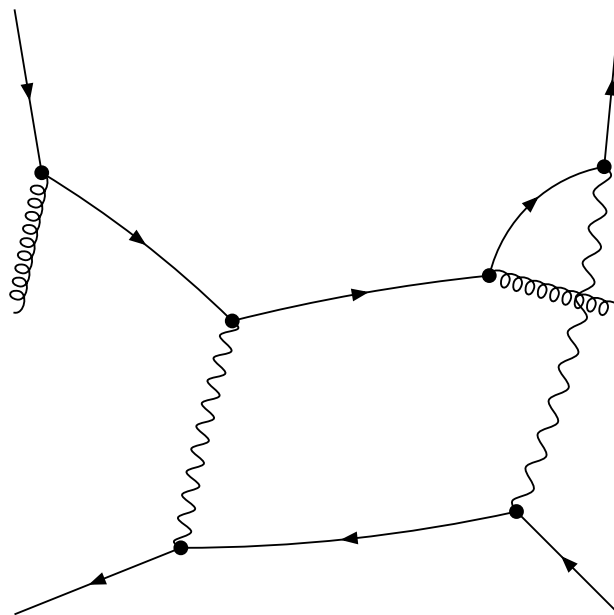
**final**

Denominator:

$\text{prop}[0,p]^{-1} \text{prop}[0,k[2]]^{-1} \text{prop}[0,p+k[2]]^{-1} \text{prop}[0,p-q]^{-1} \text{prop}[0,p-q+k[2]]^{-1}$



-1+17



-1-9+15

## embedding 7 [1, 0, 1, -1]

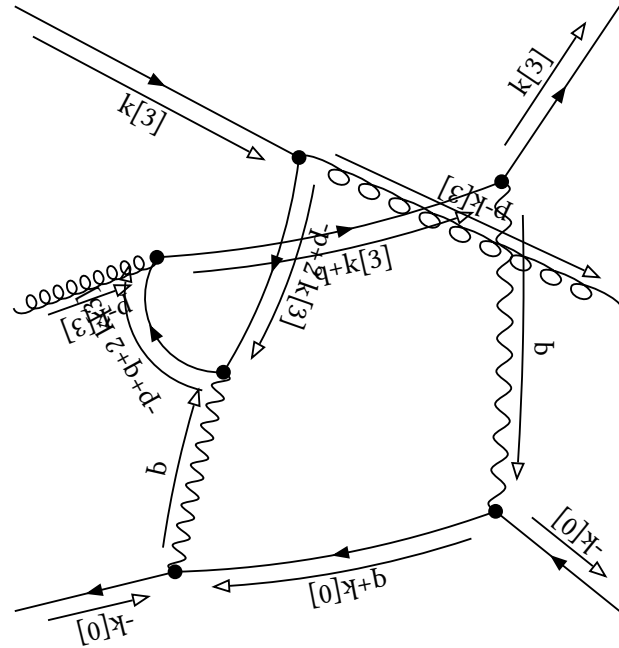
### initial

Denominator:

$$\text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p+k[3]]^{-1} \text{prop}[0, -p+2 k[3]]^{-1} \text{prop}[0, -p+q+2 k[3]]^{-1}$$

Partial Fractioned Denominator:

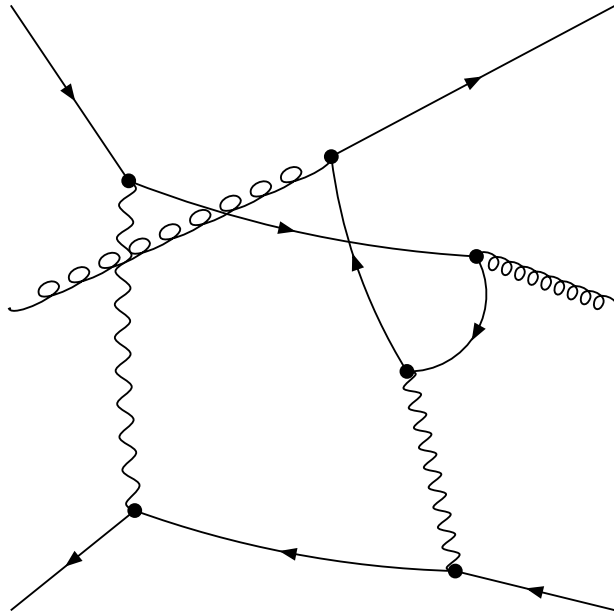
$$\begin{aligned} & -(\text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p+2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & +(\text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p+q+2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & +2 (\text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, -p+2 k[3]]^{-1} \text{prop}[0, -p+q+2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & -2 (\text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p+2 k[3]]^{-1} \text{prop}[0, -p+q+2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & +1/2 (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p+k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & - (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p+q+2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & - (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, -p+k[3]]^{-1} \text{prop}[0, -p+q+2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & - (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p+k[3]]^{-1} \text{prop}[0, -p+2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & +2 (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p+2 k[3]]^{-1} \text{prop}[0, -p+q+2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & +2 (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, -p+k[3]]^{-1} \text{prop}[0, -p+2 k[3]]^{-1} \text{prop}[0, -p+q+2 k[3]]^{-1} \text{dot}[p, p]^{-1} \end{aligned}$$



**final**

Denominator:

$\text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p+q+k[3]]^{-1} \text{prop}[0, -p+q+2 \ k[3]]^{-1} \text{prop}[0, -p+2 \ q+2 \ k[3]]^{-1}$



-1-9+17

## embedding 8 [1, 0, 1, 0]

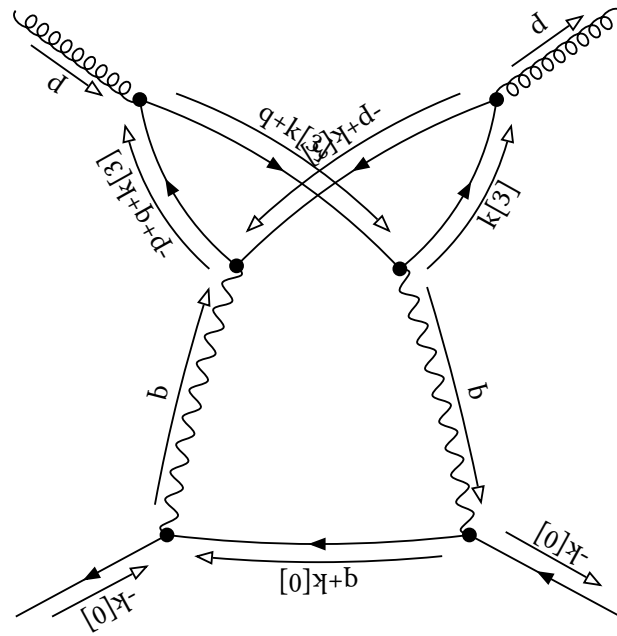
### initial

Denominator:

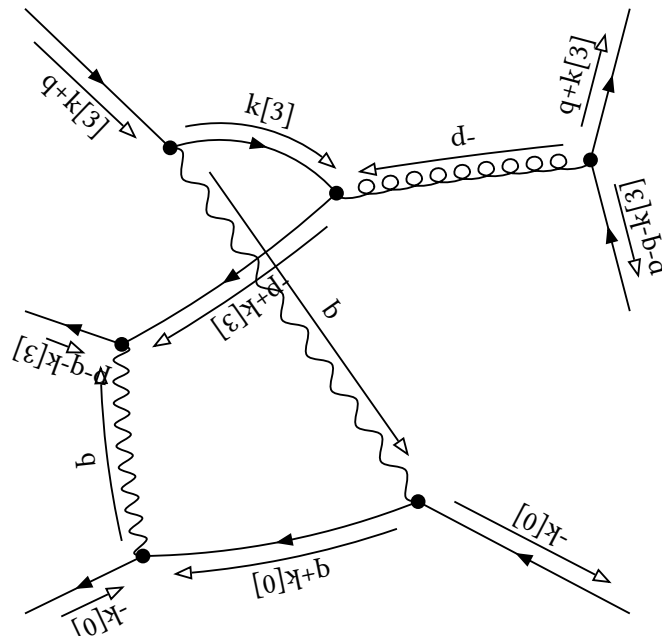
$$\text{prop}[0, k[3]]^{-1} \text{prop}[0, -p]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p+k[3]]^{-1} \text{prop}[0, -p+q+k[3]]^{-1}$$

Partial Fractioned Denominator:

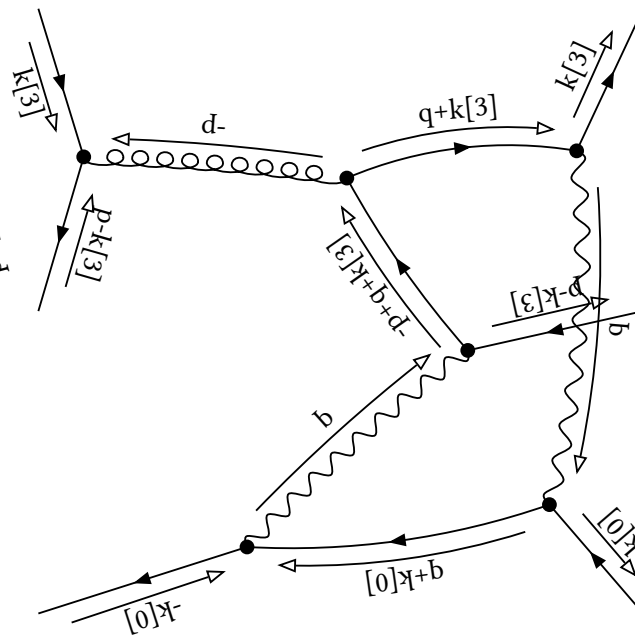
$$\begin{aligned} & -1/2 \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p+k[3]]^{-1} \text{dot}[p, p]^{-1} \text{dot}[p, q]^{-1} \\ & +1/2 \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p+q+k[3]]^{-1} \text{dot}[p, p]^{-1} \text{dot}[p, q]^{-1} \\ & +1/2 \text{prop}[0, k[3]]^{-1} \text{prop}[0, -p+k[3]]^{-1} \text{prop}[0, -p+q+k[3]]^{-1} \text{dot}[p, p]^{-1} \text{dot}[p, q]^{-1} \\ & -1/2 \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p+k[3]]^{-1} \text{prop}[0, -p+q+k[3]]^{-1} \text{dot}[p, p]^{-1} \text{dot}[p, q]^{-1} \end{aligned}$$



-3-9



-3-15+17

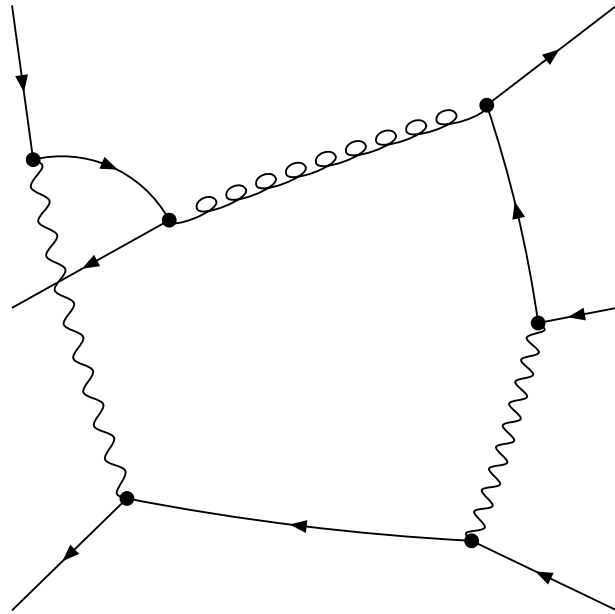


-3-11+13

**final**

Denominator:

$\text{prop}[0,k[3]]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{prop}[0,-p+q]^{-1} \text{prop}[0,-p+q+k[3]]^{-1} \text{prop}[0,-p+2 \ q+k[3]]^{-1}$



-1-11+17



## embedding 9 [1, 1, -1, 0]

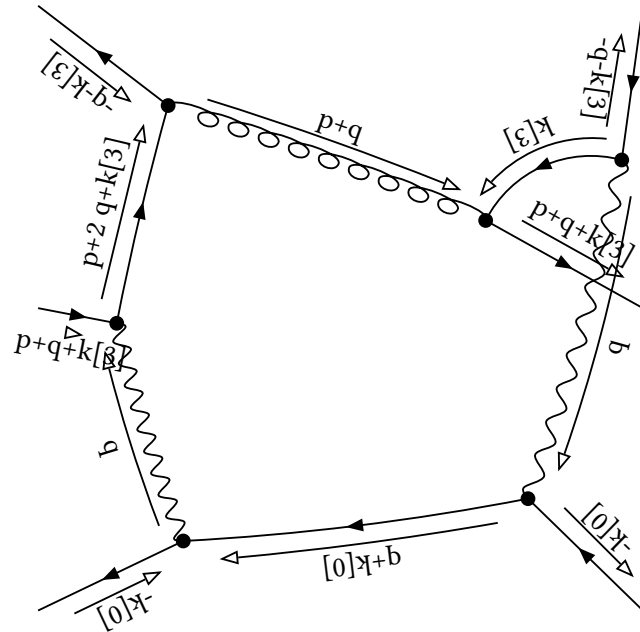
### initial

Denominator:

$$\text{prop}[0, k[3]]^{-1} \text{prop}[0, p+q]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p+q+k[3]]^{-1} \text{prop}[0, p+2 \ q+k[3]]^{-1}$$

Partial Fractioned Denominator:

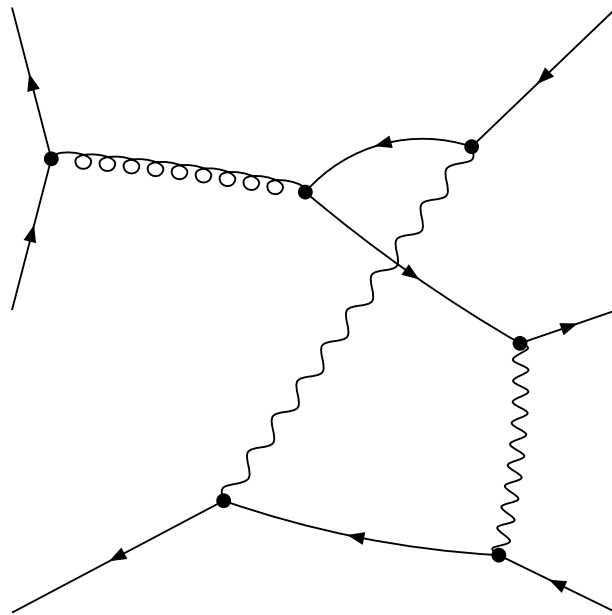
$$\begin{aligned} & -(-2 \text{dot}[p, q] - 2 \text{dot}[q, q])^{-1} (\text{dot}[p, p] + 2 \text{dot}[p, q] + \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p+q+k[3]]^{-1} \\ & + (-2 \text{dot}[p, q] - 2 \text{dot}[q, q])^{-1} (\text{dot}[p, p] + 2 \text{dot}[p, q] + \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p+2 \ q+k[3]]^{-1} \\ & + (-2 \text{dot}[p, q] - 2 \text{dot}[q, q])^{-1} (\text{dot}[p, p] + 2 \text{dot}[p, q] + \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, p+q+k[3]]^{-1} \text{prop}[0, p+2 \ q+k[3]]^{-1} \\ & - (-2 \text{dot}[p, q] - 2 \text{dot}[q, q])^{-1} (\text{dot}[p, p] + 2 \text{dot}[p, q] + \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, p+q+k[3]]^{-1} \text{prop}[0, p+2 \ q+k[3]]^{-1} \end{aligned}$$



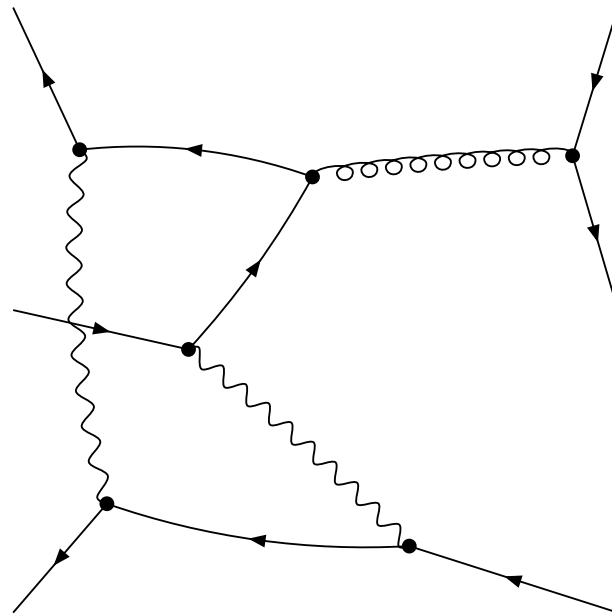
**final**

Denominator:

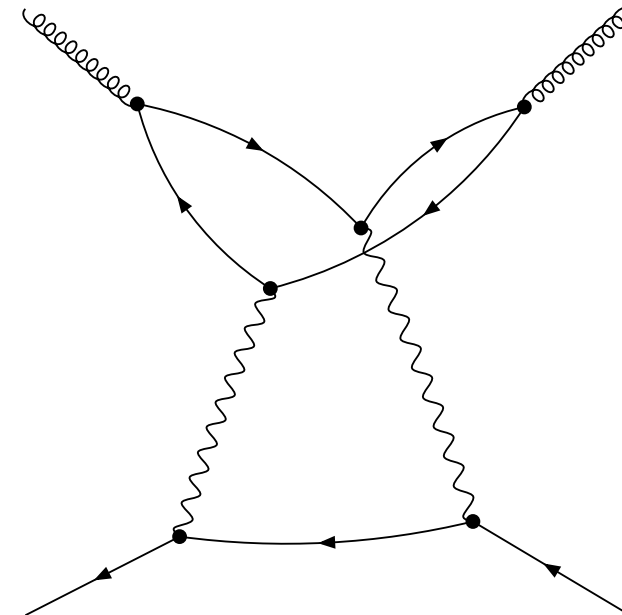
$\text{prop}[0,p]^{-1} \text{prop}[0,k[3]]^{-1} \text{prop}[0,p+k[3]]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{prop}[0,p+q+k[3]]^{-1}$



-1+15-17



-1+11-13



-1+9

**embedding 10**  $[1, 1, -1, 1]$

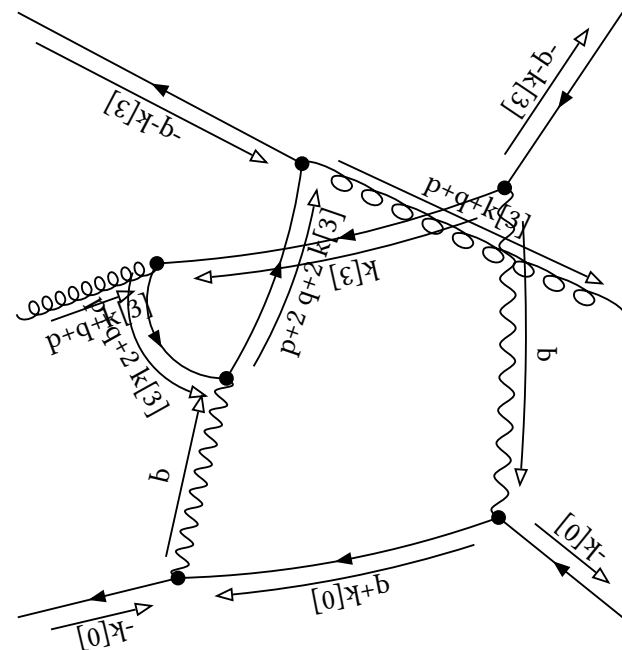
**initial**

Denominator:

$$\text{prop}[0,k[3]]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{prop}[0,p+q+k[3]]^{-1} \text{prop}[0,p+q+2 \ k[3]]^{-1} \text{prop}[0,p+2 \ q+2 \ k[3]]^{-1}$$

Partial Fractioned Denominator:

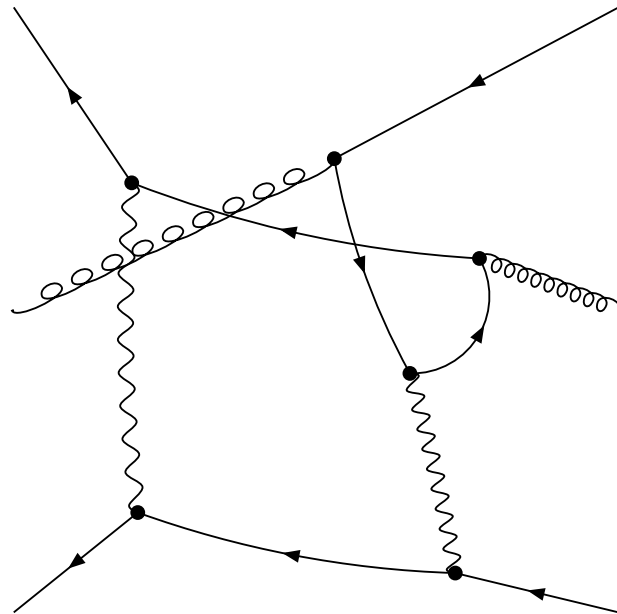
$$\begin{aligned} & -1/2 (-\text{dot}[p,q]-1/2 \text{dot}[q,q])^{-1} (1/2 \text{dot}[p,p]+\text{dot}[p,q]+1/2 \text{dot}[q,q])^{-1} \text{prop}[\theta,k[3]]^{-1} \text{prop}[\theta,q+k[3]]^{-1} \text{prop}[\theta,p+q+2 k[3]]^{-1} \\ & +1/2 (-\text{dot}[p,q]-1/2 \text{dot}[q,q])^{-1} (1/2 \text{dot}[p,p]+\text{dot}[p,q]+1/2 \text{dot}[q,q])^{-1} \text{prop}[\theta,k[3]]^{-1} \text{prop}[\theta,q+k[3]]^{-1} \text{prop}[\theta,p+2 q+2 k[3]]^{-1} \\ & +(-\text{dot}[p,q]-1/2 \text{dot}[q,q])^{-1} (1/2 \text{dot}[p,p]+\text{dot}[p,q]+1/2 \text{dot}[q,q])^{-1} \text{prop}[\theta,k[3]]^{-1} \text{prop}[\theta,p+q+2 k[3]]^{-1} \text{prop}[\theta,p+2 q+2 k[3]]^{-1} \\ & -(-\text{dot}[p,q]-1/2 \text{dot}[q,q])^{-1} (1/2 \text{dot}[p,p]+\text{dot}[p,q]+1/2 \text{dot}[q,q])^{-1} \text{prop}[\theta,q+k[3]]^{-1} \text{prop}[\theta,p+q+2 k[3]]^{-1} \text{prop}[\theta,p+2 q+2 k[3]]^{-1} \\ & +1/2 (1/2 \text{dot}[p,p]+\text{dot}[p,q]+1/2 \text{dot}[q,q])^{-1} \text{prop}[\theta,k[3]]^{-1} \text{prop}[\theta,q+k[3]]^{-1} \text{prop}[\theta,p+q+k[3]]^{-1} \text{dot}[p,p]^{-1} \\ & -(1/2 \text{dot}[p,p]+\text{dot}[p,q]+1/2 \text{dot}[q,q])^{-1} \text{prop}[\theta,k[3]]^{-1} \text{prop}[\theta,q+k[3]]^{-1} \text{prop}[\theta,p+2 q+2 k[3]]^{-1} \text{dot}[p,p]^{-1} \\ & -(1/2 \text{dot}[p,p]+\text{dot}[p,q]+1/2 \text{dot}[q,q])^{-1} \text{prop}[\theta,k[3]]^{-1} \text{prop}[\theta,p+q+k[3]]^{-1} \text{prop}[\theta,p+2 q+2 k[3]]^{-1} \text{dot}[p,p]^{-1} \\ & -(1/2 \text{dot}[p,p]+\text{dot}[p,q]+1/2 \text{dot}[q,q])^{-1} \text{prop}[\theta,q+k[3]]^{-1} \text{prop}[\theta,p+q+k[3]]^{-1} \text{prop}[\theta,p+q+2 k[3]]^{-1} \text{dot}[p,p]^{-1} \\ & +2 (1/2 \text{dot}[p,p]+\text{dot}[p,q]+1/2 \text{dot}[q,q])^{-1} \text{prop}[\theta,q+k[3]]^{-1} \text{prop}[\theta,p+q+2 k[3]]^{-1} \text{prop}[\theta,p+2 q+2 k[3]]^{-1} \text{dot}[p,p]^{-1} \\ & +2 (1/2 \text{dot}[p,p]+\text{dot}[p,q]+1/2 \text{dot}[q,q])^{-1} \text{prop}[\theta,p+q+k[3]]^{-1} \text{prop}[\theta,p+q+2 k[3]]^{-1} \text{prop}[\theta,p+2 q+2 k[3]]^{-1} \text{dot}[p,p]^{-1} \end{aligned}$$



**final**

Denominator:

$\text{prop}[0,k[3]]^{-1} \text{prop}[0,p+k[3]]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{prop}[0,p+2 \ k[3]]^{-1} \text{prop}[0,p+q+2 \ k[3]]^{-1}$



-1+9-13

**embedding 11 [1, 1, 0, 1]**

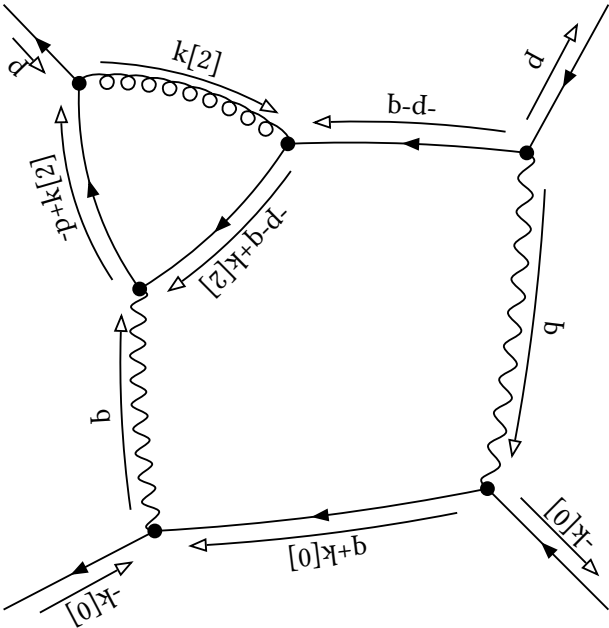
**initial**

Denominator:

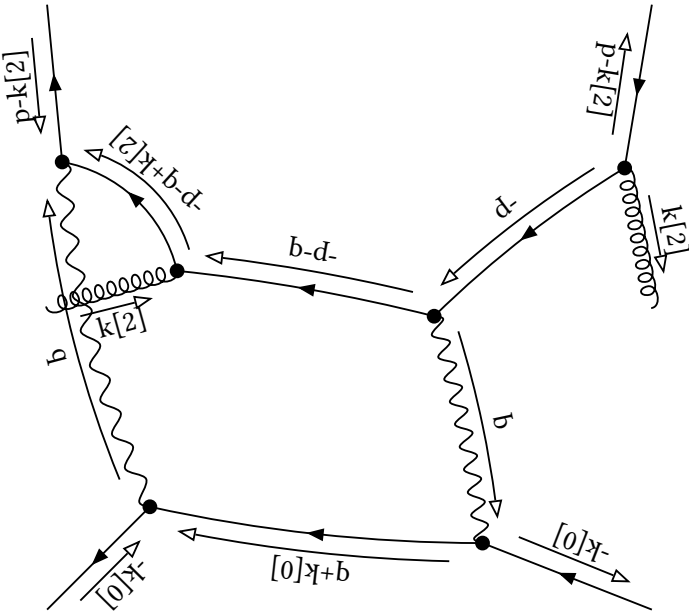
$\text{prop}[0,k[2]]^{-1} \text{prop}[0,-p]^{-1} \text{prop}[0,-p+k[2]]^{-1} \text{prop}[0,-p-q]^{-1} \text{prop}[0,-p-q+k[2]]^{-1}$

Partial Fractioned Denominator:

$(\text{dot}[p,p]+2 \text{dot}[p,q]+\text{dot}[q,q])^{-1} \text{prop}[0,k[2]]^{-1} \text{prop}[0,-p+k[2]]^{-1} \text{prop}[0,-p-q+k[2]]^{-1} \text{dot}[p,p]^{-1}$



-3-17

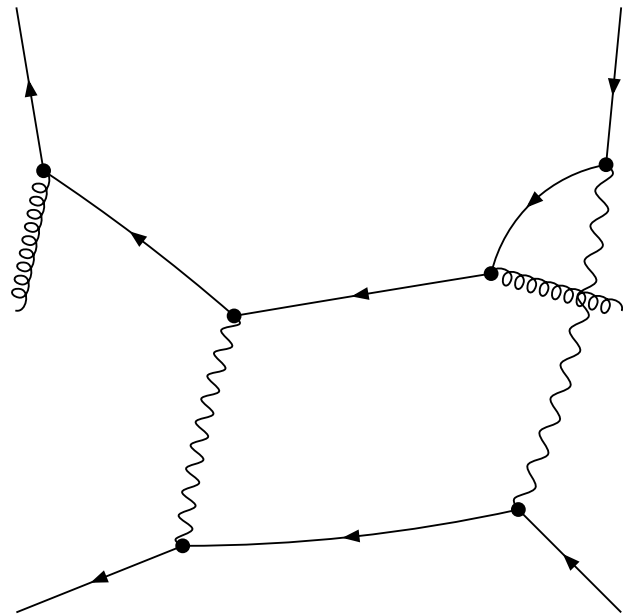


-3+9-15

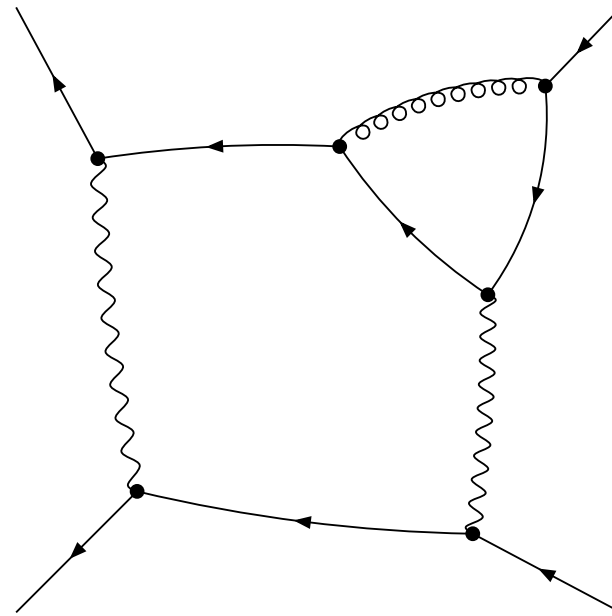
**final**

Denominator:

$\text{prop}[0, k[2]]^{-1} \text{prop}[0, -p]^{-1} \text{prop}[0, -p+q]^{-1} \text{prop}[0, -p+k[2]]^{-1} \text{prop}[0, -p+q+k[2]]^{-1}$



-1+9-11



-1-13

**embedding 12 [1, 1, 1, 0]**

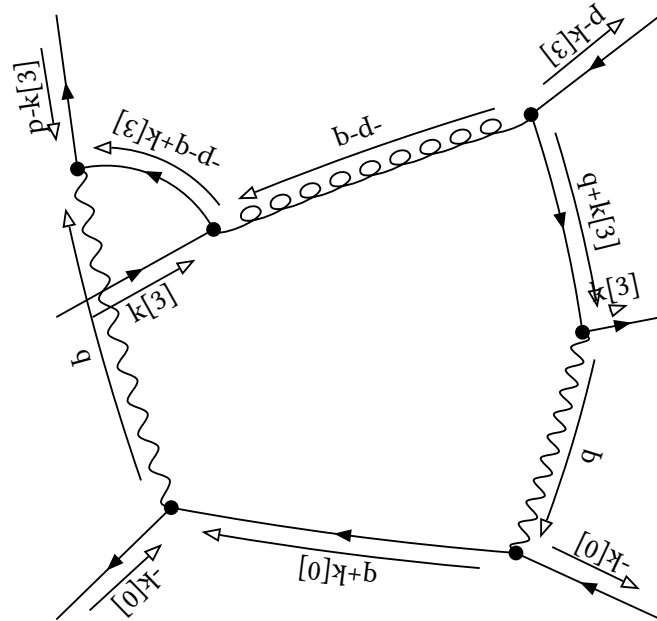
**initial**

Denominator:

$$\text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p+k[3]]^{-1} \text{prop}[0, -p-q]^{-1} \text{prop}[0, -p-q+k[3]]^{-1}$$

Partial Fractioned Denominator:

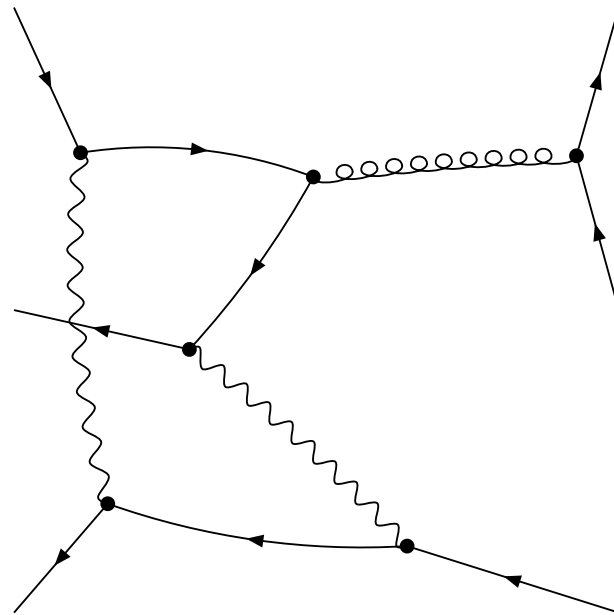
$$\begin{aligned} & (2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} (\text{dot}[p, p] + 2 \text{dot}[p, q] + \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p+k[3]]^{-1} \\ & - (2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} (\text{dot}[p, p] + 2 \text{dot}[p, q] + \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p-q+k[3]]^{-1} \\ & + (2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} (\text{dot}[p, p] + 2 \text{dot}[p, q] + \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, -p+k[3]]^{-1} \text{prop}[0, -p-q+k[3]]^{-1} \\ & - (2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} (\text{dot}[p, p] + 2 \text{dot}[p, q] + \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p+k[3]]^{-1} \text{prop}[0, -p-q+k[3]]^{-1} \end{aligned}$$



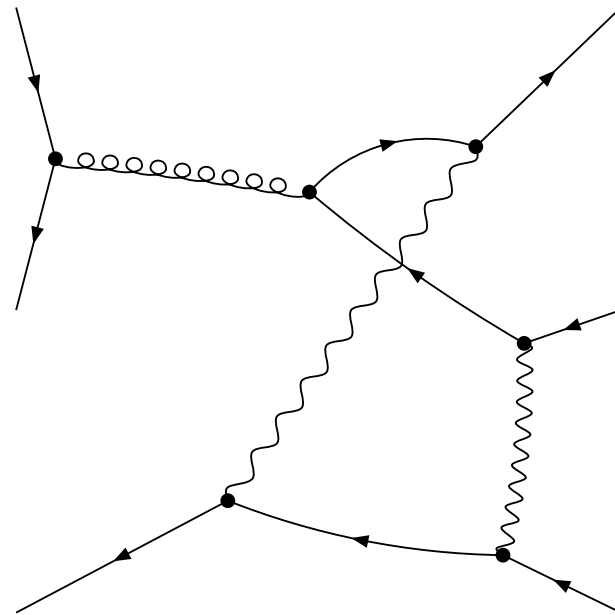
**final**

Denominator:

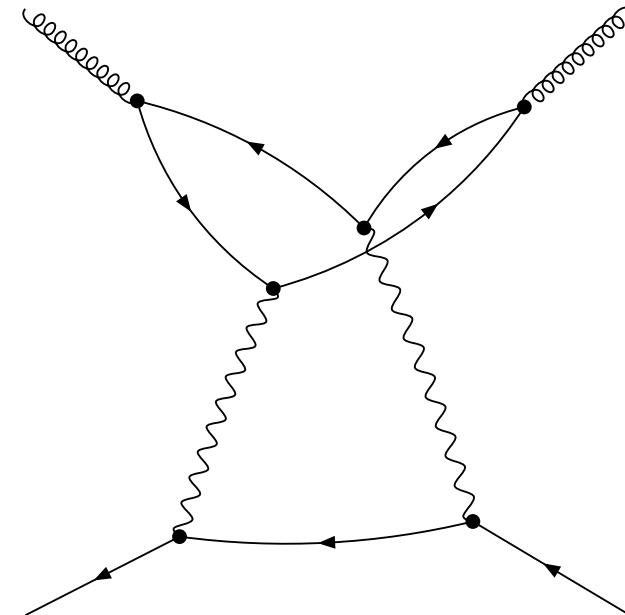
$\text{prop}[0,k[3]]^{-1} \text{prop}[0,-p]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{prop}[0,-p+k[3]]^{-1} \text{prop}[0,-p+q+k[3]]^{-1}$



-1-15+17



-1-11+13



-1-9



embedding 13 [1, 1, 1, 1]

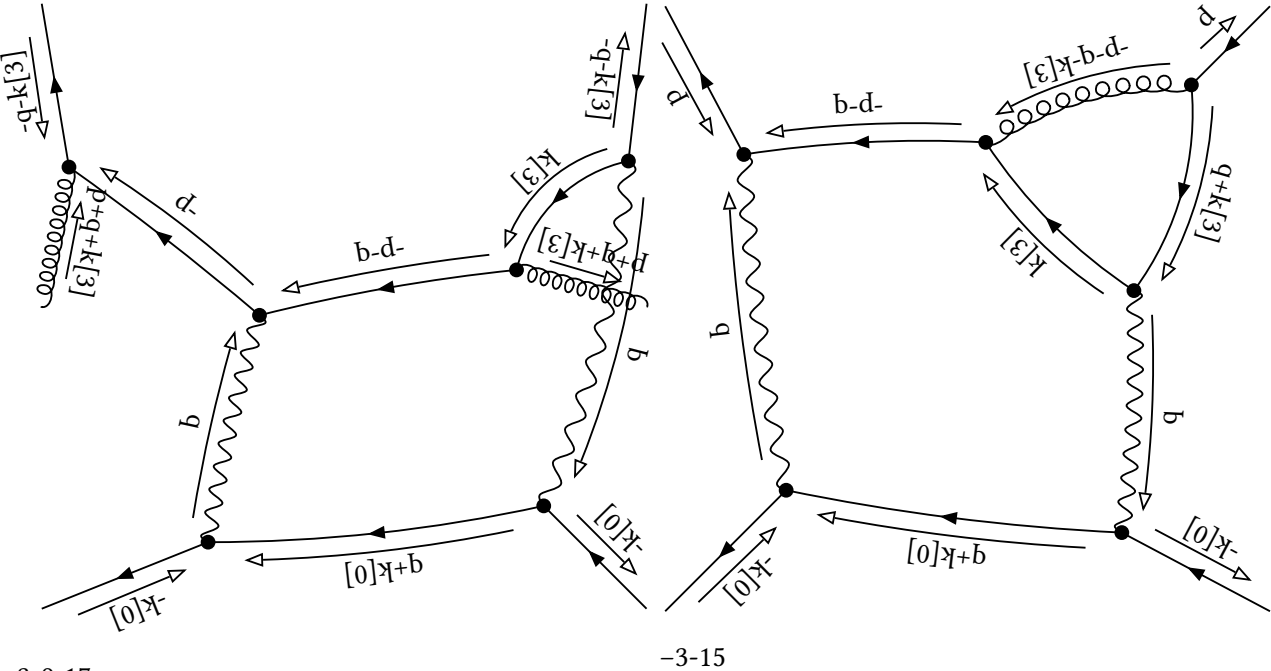
initial

Denominator:

$\text{prop}[0,k[3]]^{-1} \text{prop}[0,-p]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{prop}[0,-p-q]^{-1} \text{prop}[0,-p-q-k[3]]^{-1}$

Partial Fractioned Denominator:

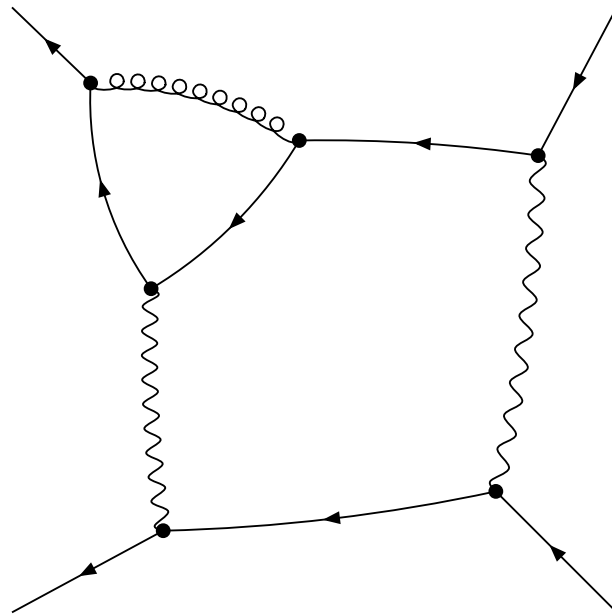
$(\text{dot}[p,p]+2 \text{dot}[p,q]+\text{dot}[q,q])^{-1} \text{prop}[0,k[3]]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{prop}[0,-p-q-k[3]]^{-1} \text{dot}[p,p]^{-1}$



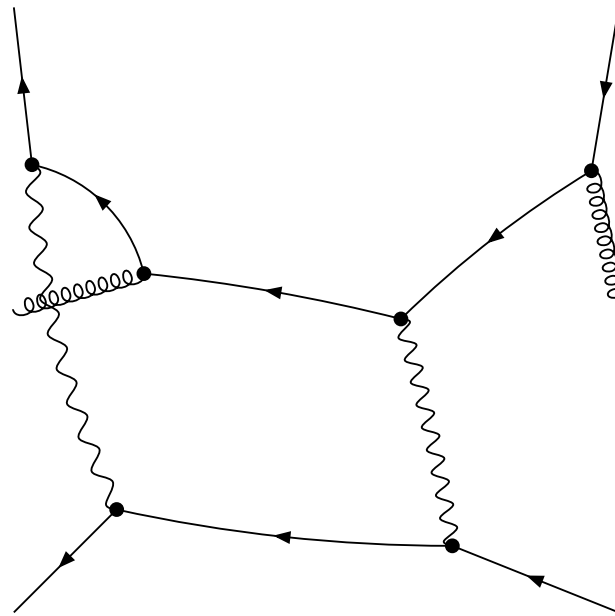
**final**

Denominator:

$\text{prop}[0, k[3]]^{-1} \text{prop}[0, -p]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p+q]^{-1} \text{prop}[0, -p-k[3]]^{-1}$



-1-11



-1-9-13

## embedding 14 [1, 1, 1, 2]

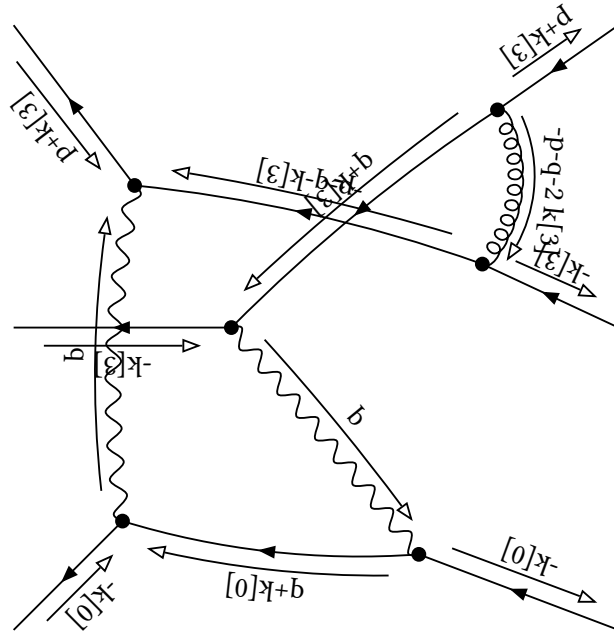
### initial

Denominator:

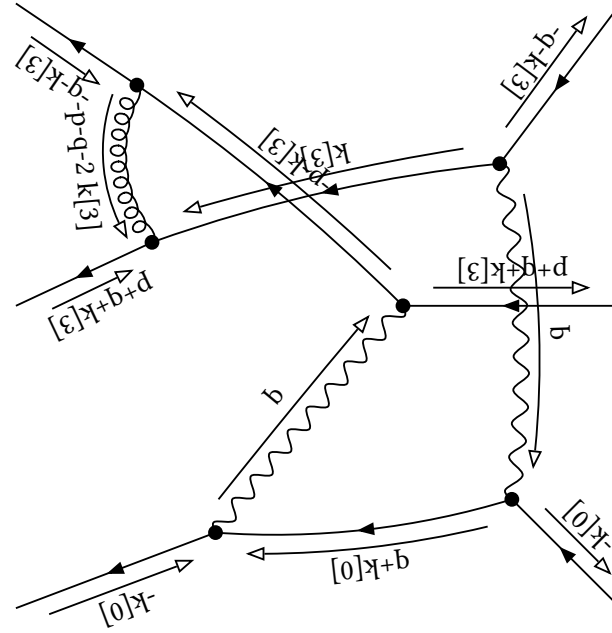
$$\text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p-k[3]]^{-1} \text{prop}[0, -p-q-k[3]]^{-1} \text{prop}[0, -p-q-2 k[3]]^{-1}$$

Partial Fractioned Denominator:

$$\begin{aligned} & -1/2 (1/2 \text{dot}[p, p] - \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p-k[3]]^{-1} \\ & + (1/2 \text{dot}[p, p] - \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p-q-2 k[3]]^{-1} \\ & + (1/2 \text{dot}[p, p] - \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, -p-k[3]]^{-1} \text{prop}[0, -p-q-2 k[3]]^{-1} \\ & - 1/2 (1/2 \text{dot}[p, p] - \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p-k[3]]^{-1} \text{prop}[0, -p-q-2 k[3]]^{-1} \\ & + (1/2 \text{dot}[p, p] - \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p-q-k[3]]^{-1} \text{prop}[0, -p-q-2 k[3]]^{-1} \\ & + (1/2 \text{dot}[p, p] - \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, -p-k[3]]^{-1} \text{prop}[0, -p-q-k[3]]^{-1} \text{prop}[0, -p-q-2 k[3]]^{-1} \\ & - 1/4 (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p-k[3]]^{-1} \text{dot}[p, q]^{-1} \\ & + 1/4 (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p-q-k[3]]^{-1} \text{dot}[p, q]^{-1} \\ & + 1/4 (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, -p-k[3]]^{-1} \text{prop}[0, -p-q-k[3]]^{-1} \text{dot}[p, q]^{-1} \\ & - 1/4 (1/2 \text{dot}[p, p] + \text{dot}[p, q] + 1/2 \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p-k[3]]^{-1} \text{prop}[0, -p-q-k[3]]^{-1} \text{dot}[p, q]^{-1} \end{aligned}$$



-3-13-15

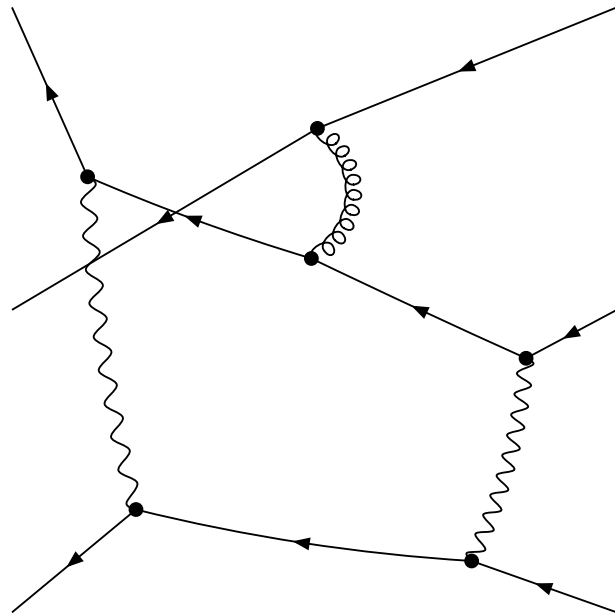


-3-11-17

**final**

Denominator:

$\text{prop}[0,k[3]]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{prop}[0,-p-k[3]]^{-1} \text{prop}[0,-p-2 k[3]]^{-1} \text{prop}[0,-p+q-k[3]]^{-1}$



-1-11-13

## embedding 15 [1, 1, 2, 1]

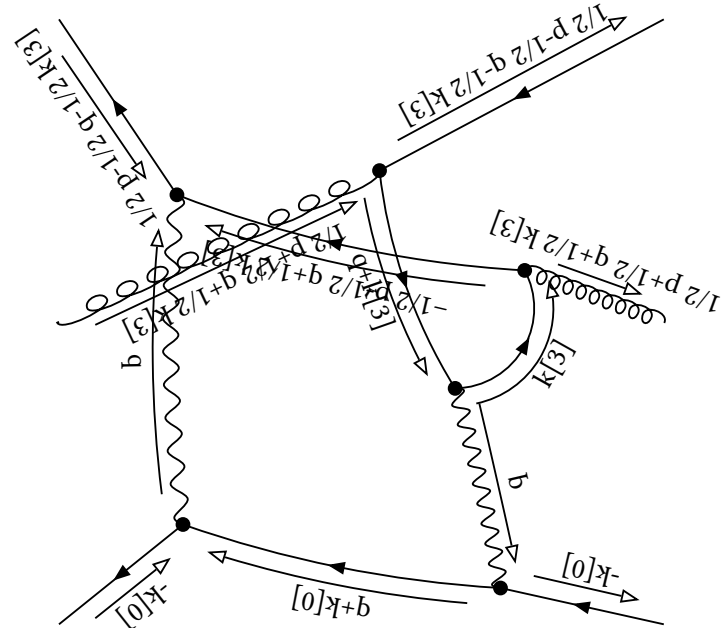
### initial

Denominator:

$$\text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -1/2 p+1/2 q+1/2 k[3]]^{-1} \text{prop}[0, -1/2 p-1/2 q+1/2 k[3]]^{-1} \text{prop}[0, -1/2 p-1/2 q-1/2 k[3]]^{-1}$$

Partial Fractioned Denominator:

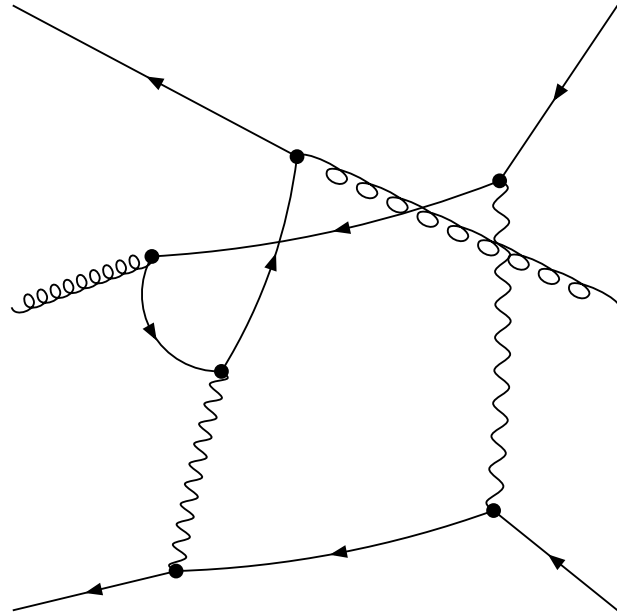
$$\begin{aligned} & -4 (2 \text{dot}[p, q] + \text{dot}[q, q])^{-1} (-\text{dot}[p, p] - 2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -1/2 p+1/2 q+1/2 k[3]]^{-1} \\ & + 4 (2 \text{dot}[p, q] + \text{dot}[q, q])^{-1} (-\text{dot}[p, p] - 2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -1/2 p-1/2 q+1/2 k[3]]^{-1} \\ & - 2 (2 \text{dot}[p, q] + \text{dot}[q, q])^{-1} (-\text{dot}[p, p] - 2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, -1/2 p+1/2 q+1/2 k[3]]^{-1} \text{prop}[0, -1/2 p-1/2 q+1/2 k[3]]^{-1} \\ & + 2 (2 \text{dot}[p, q] + \text{dot}[q, q])^{-1} (-\text{dot}[p, p] - 2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -1/2 p+1/2 q+1/2 k[3]]^{-1} \text{prop}[0, -1/2 p-1/2 q+1/2 k[3]]^{-1} \\ & - 4 (-\text{dot}[p, p] - 2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -1/2 p+1/2 q+1/2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & - 4 (-\text{dot}[p, p] - 2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -1/2 p-1/2 q-1/2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & + 2 (-\text{dot}[p, p] - 2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, -1/2 p+1/2 q+1/2 k[3]]^{-1} \text{prop}[0, -1/2 p-1/2 q-1/2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & + 2 (-\text{dot}[p, p] - 2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -1/2 p+1/2 q+1/2 k[3]]^{-1} \text{prop}[0, -1/2 p-1/2 q+1/2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & + 2 (-\text{dot}[p, p] - 2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -1/2 p-1/2 q+1/2 k[3]]^{-1} \text{prop}[0, -1/2 p-1/2 q-1/2 k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & - (-\text{dot}[p, p] - 2 \text{dot}[p, q] - \text{dot}[q, q])^{-1} \text{prop}[0, -1/2 p+1/2 q+1/2 k[3]]^{-1} \text{prop}[0, -1/2 p-1/2 q+1/2 k[3]]^{-1} \text{prop}[0, -1/2 p-1/2 q-1/2 k[3]]^{-1} \\ & \text{dot}[p, p]^{-1} \end{aligned}$$



**final**

Denominator:

$$\text{prop}[0,k[3]]^{-1} \text{prop}[0,q+k[3]]^{-1} \text{prop}[0,-1/2 \ p+1/2 \ k[3]]^{-1} \text{prop}[0,-1/2 \ p-1/2 \ k[3]]^{-1} \text{prop}[0,-1/2 \ p+q+1/2 \ k[3]]^{-1}$$



-1-9-11

## embedding 16 [1, 2, 1, 2]

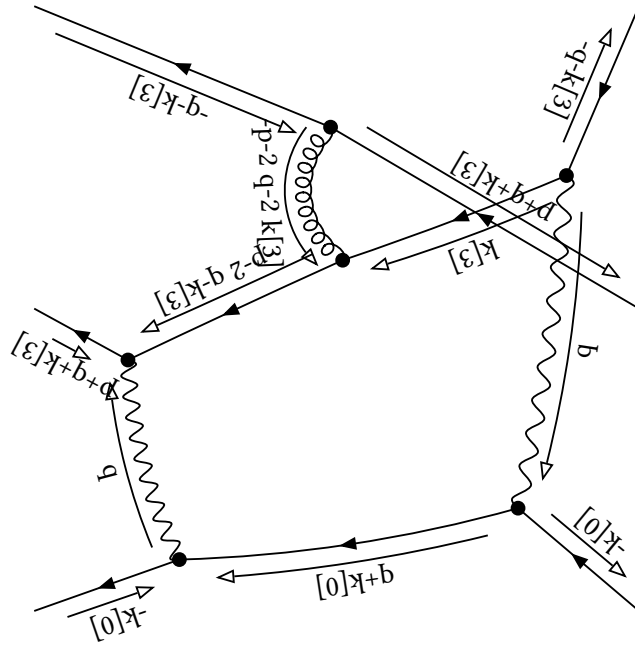
### initial

Denominator:

$$\text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p-q-k[3]]^{-1} \text{prop}[0, -p-2q-k[3]]^{-1} \text{prop}[0, -p-2q-2k[3]]^{-1}$$

Partial Fractioned Denominator:

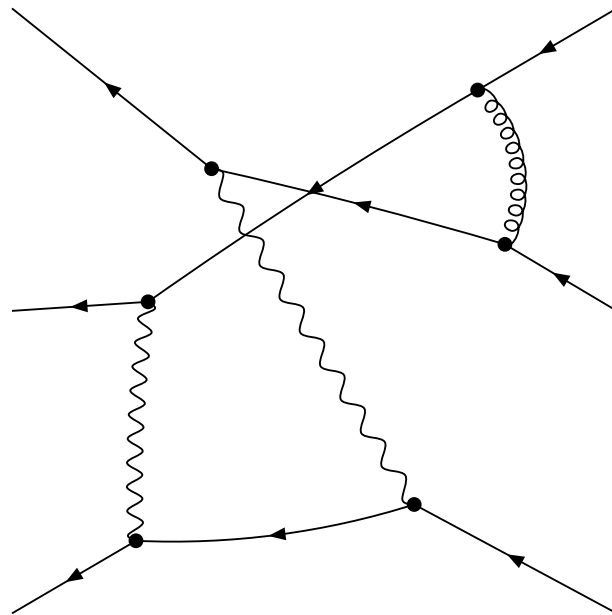
$$\begin{aligned} & 1/2 (-2 \text{dot}[p, q] - 2 \text{dot}[q, q])^{-1} (1/2 \text{dot}[p, p] + 2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p-q-k[3]]^{-1} \\ & - 1/2 (-2 \text{dot}[p, q] - 2 \text{dot}[q, q])^{-1} (1/2 \text{dot}[p, p] + 2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p-2q-k[3]]^{-1} \\ & - 1/2 (-2 \text{dot}[p, q] - 2 \text{dot}[q, q])^{-1} (1/2 \text{dot}[p, p] + 2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, -p-q-k[3]]^{-1} \text{prop}[0, -p-2q-k[3]]^{-1} \\ & + 1/2 (-2 \text{dot}[p, q] - 2 \text{dot}[q, q])^{-1} (1/2 \text{dot}[p, p] + 2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p-q-k[3]]^{-1} \text{prop}[0, -p-2q-k[3]]^{-1} \\ & - (1/2 \text{dot}[p, p] + 2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p-q-k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & + 2 (1/2 \text{dot}[p, p] + 2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p-2q-2k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & + 2 (1/2 \text{dot}[p, p] + 2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, k[3]]^{-1} \text{prop}[0, -p-q-k[3]]^{-1} \text{prop}[0, -p-2q-2k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & - (1/2 \text{dot}[p, p] + 2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p-q-k[3]]^{-1} \text{prop}[0, -p-2q-k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & + 2 (1/2 \text{dot}[p, p] + 2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p-2q-k[3]]^{-1} \text{prop}[0, -p-2q-2k[3]]^{-1} \text{dot}[p, p]^{-1} \\ & + 2 (1/2 \text{dot}[p, p] + 2 \text{dot}[p, q] + 2 \text{dot}[q, q])^{-1} \text{prop}[0, -p-q-k[3]]^{-1} \text{prop}[0, -p-2q-k[3]]^{-1} \text{prop}[0, -p-2q-2k[3]]^{-1} \text{dot}[p, p]^{-1} \end{aligned}$$



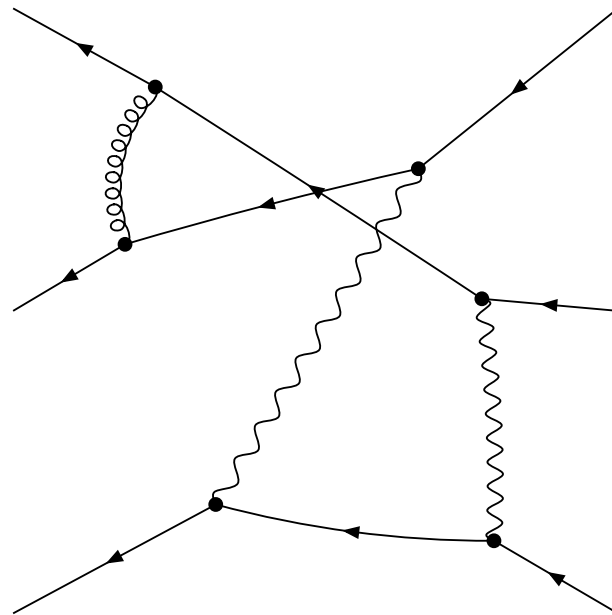
**final**

Denominator:

$\text{prop}[0, k[3]]^{-1} \text{prop}[0, q+k[3]]^{-1} \text{prop}[0, -p-k[3]]^{-1} \text{prop}[0, -p-q-k[3]]^{-1} \text{prop}[0, -p-q-2 k[3]]^{-1}$



-1-13-15



-1-11-17



