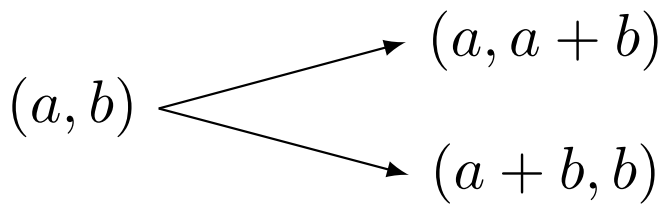
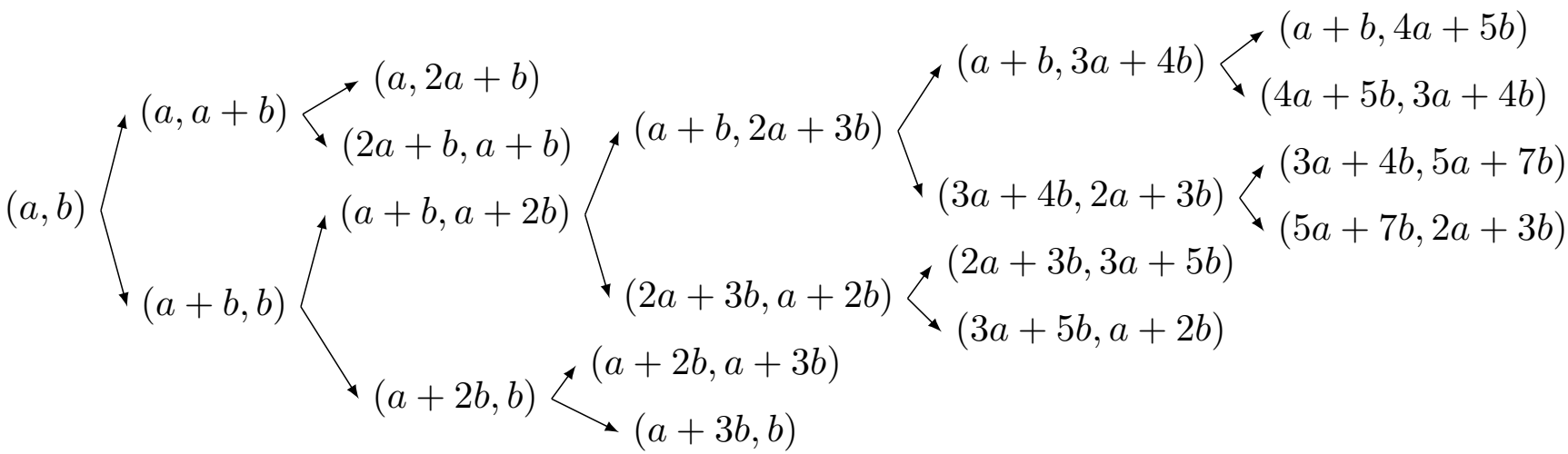
(1) $P = \{p, q, r, s\},\ N_P(a) = p,\ N_P(b) = q,\ N_P(a+b) = 1.$



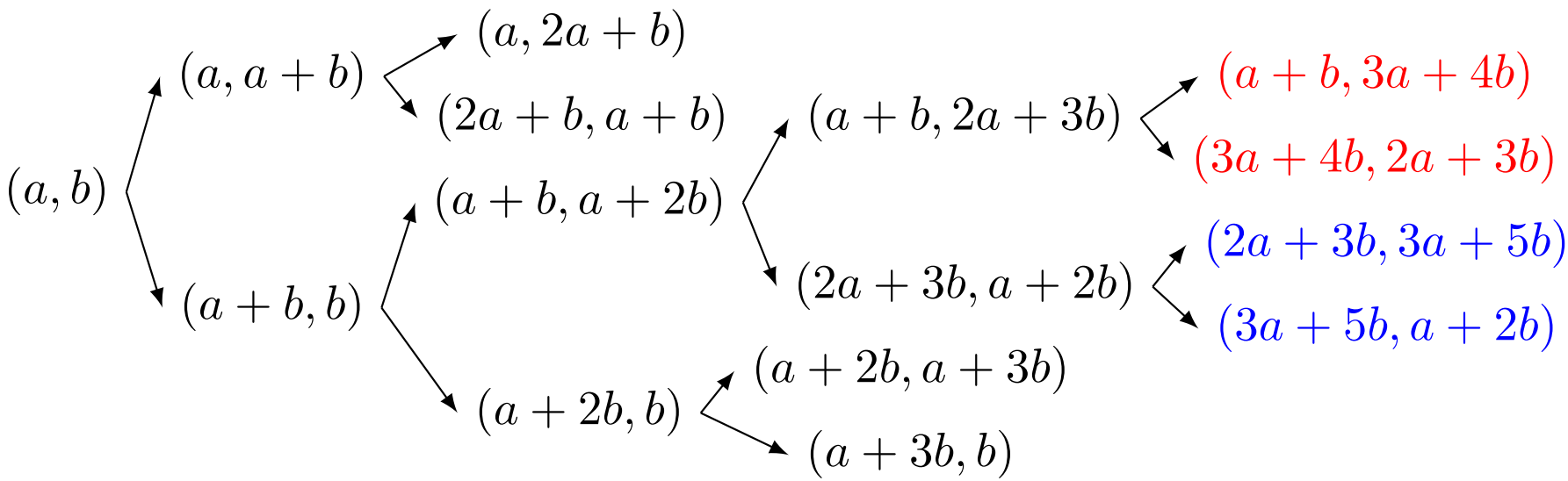
$$\mathrm{APT}_P(a, b) = \Big\{(a, b),\ (a, a+b),\ (a+b, b)\Big\}.$$

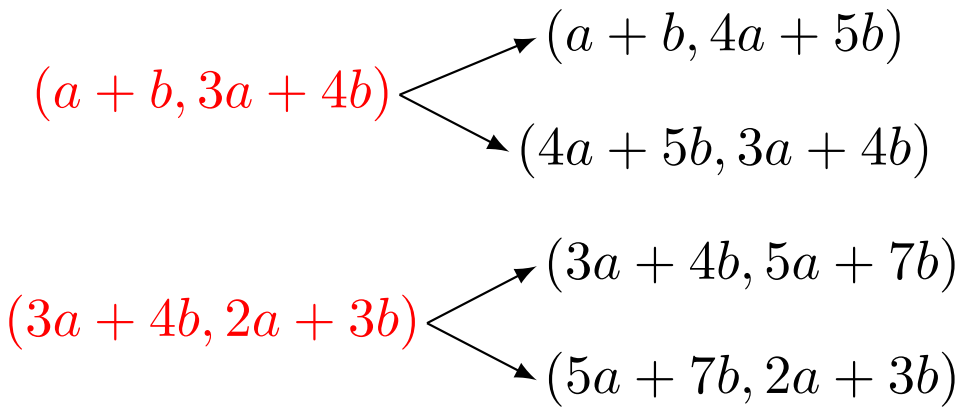
(2) $P = \{p, q, r, s\},\ N_P(a) = p,\ N_P(b) = q,\ N_P(a+b) = r,$
$N_P(2a+3b) = s,$
(i) $p = 2,\ q \neq 3, 5.$

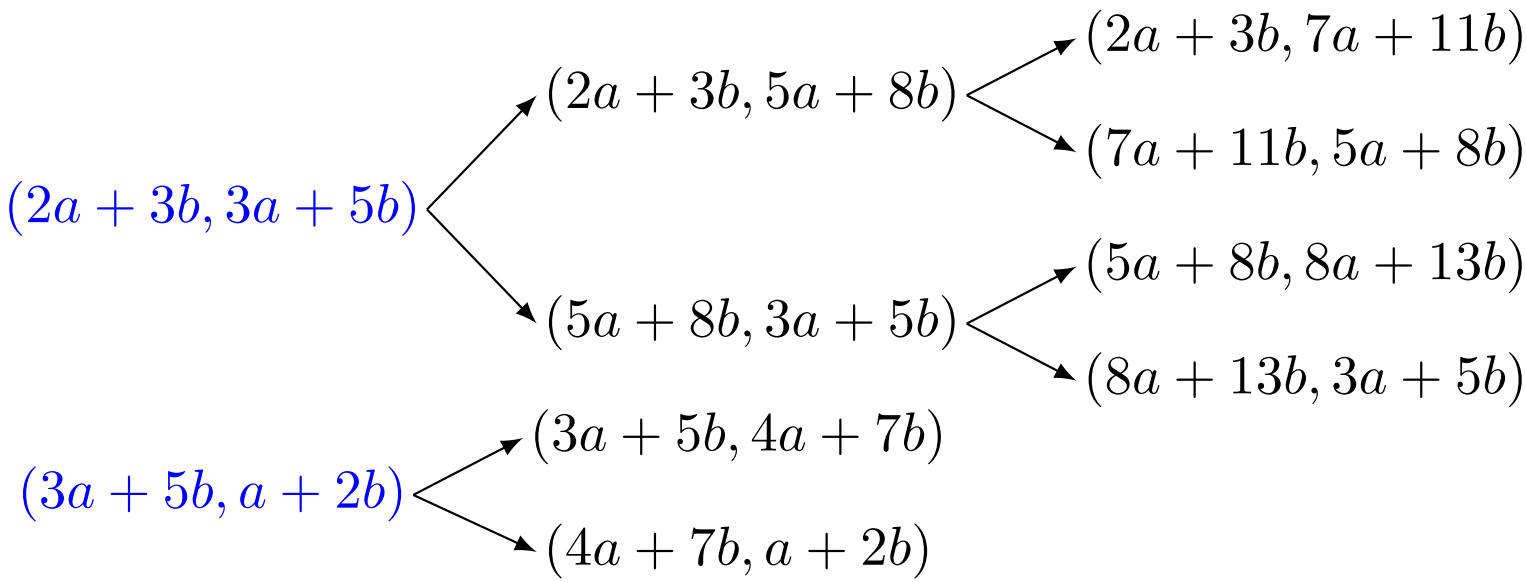


$$\begin{aligned}\mathrm{APT}_P(a,b) = \Big\{ & (a,b),\ (a,a+b),\ (a+b,b),\ (a,2a+b) \\ & (2a+b,a+b),\ (a+b,a+2b),\ (a+2b,b), \\ & (a+b,2a+3b),\ (2a+3b,a+2b),\ (a+2b,a+3b), \\ & (a+3b,b),\ (a+b,3a+4b),\ (3a+4b,2a+3b), \\ & (2a+3b,3a+5b),\ (3a+5b,a+2b),\ (a+b,4a+5b), \\ & (4a+5b,3a+4b),\ (3a+4b,5a+7b),\ (5a+7b,2a+3b) \Big\}.\end{aligned}$$

(2) $P = \{p, q, r, s\},\ N_P(a) = p,\ N_P(b) = q,\ N_P(a+b) = r,$
$N_P(2a+3b) = s,$
(ii) $p = 2,\ q = 3,\ r \neq 5.$

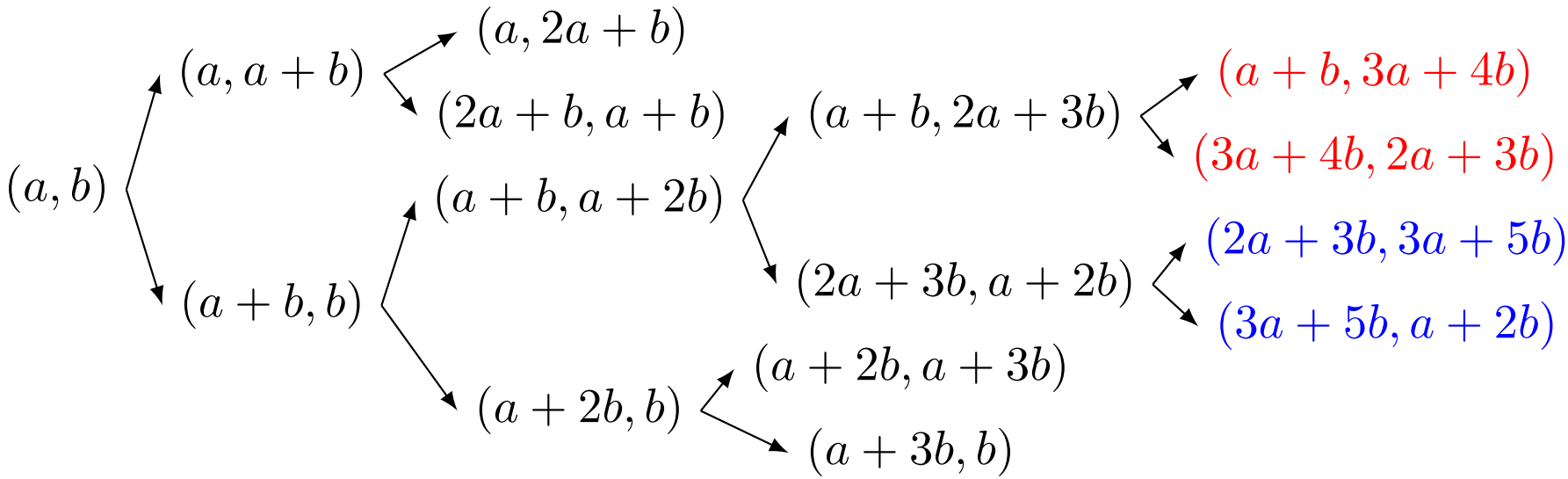


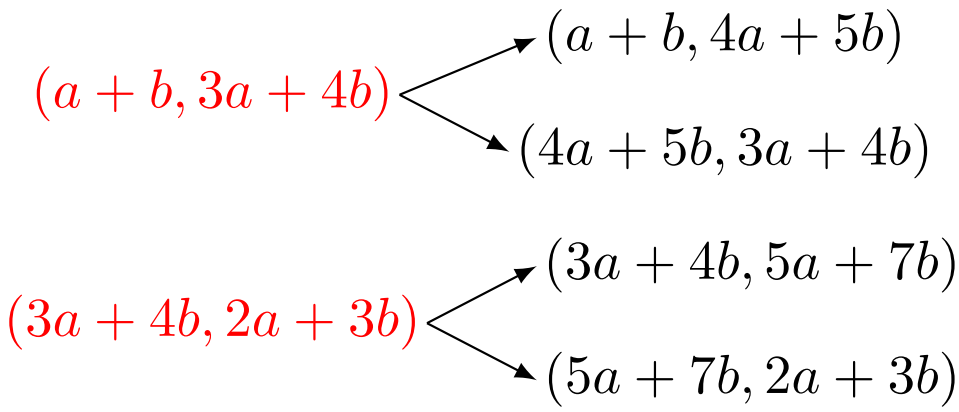

$(a+b, 3a+4b)$
$(a+b, 4a+5b)$
$(4a+5b, 3a+4b)$
$(3a+4b, 2a+3b)$
$(3a+4b, 5a+7b)$
$(5a+7b, 2a+3b)$

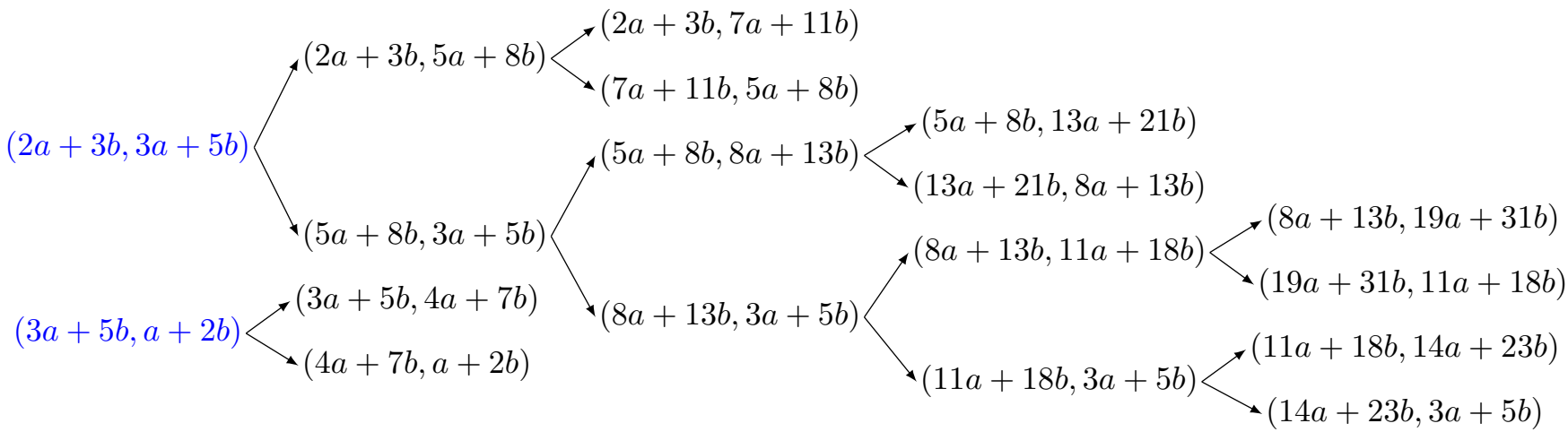

$(2a+3b, 3a+5b)$
$(2a+3b, 5a+8b)$
$(5a+8b, 3a+5b)$
$(2a+3b, 7a+11b)$
$(7a+11b, 5a+8b)$
$(5a+8b, 8a+13b)$
$(8a+13b, 3a+5b)$
$(3a+5b, a+2b)$
$(3a+5b, 4a+7b)$
$(4a+7b, a+2b)$

$$\begin{aligned}\mathrm{APT}_P(a,b) = \Big\{ & (a,b),\ (a,a+b),\ (a+b,b),\ (a,2a+b) \\ & (2a+b,a+b),\ (a+b,a+2b),\ (a+2b,b), \\ & (a+b,2a+3b),\ (2a+3b,a+2b),\ (a+2b,a+3b), \\ & (a+3b,b),\ (a+b,3a+4b),\ (3a+4b,2a+3b), \\ & (2a+3b,3a+5b),\ (3a+5b,a+2b),\ (a+b,4a+5b), \\ & (4a+5b,3a+4b),\ (3a+4b,5a+7b),\ (5a+7b,2a+3b), \\ & (2a+3b,5a+8b),\ (5a+8b,3a+5b),\ (3a+5b,4a+7b), \\ & (4a+7b,a+2b),\ (2a+3b,7a+11b),\ (7a+11b,5a+8b), \\ & (5a+8b,8a+13b),\ (8a+13b,3a+5b) \Big\}.\end{aligned}$$

(2) $P = \{p, q, r, s\},\ N_P(a) = p,\ N_P(b) = q,\ N_P(a+b) = r,$
$N_P(2a+3b) = s,$
(iii) $p = 2,\ q = 3,\ r = 5.$

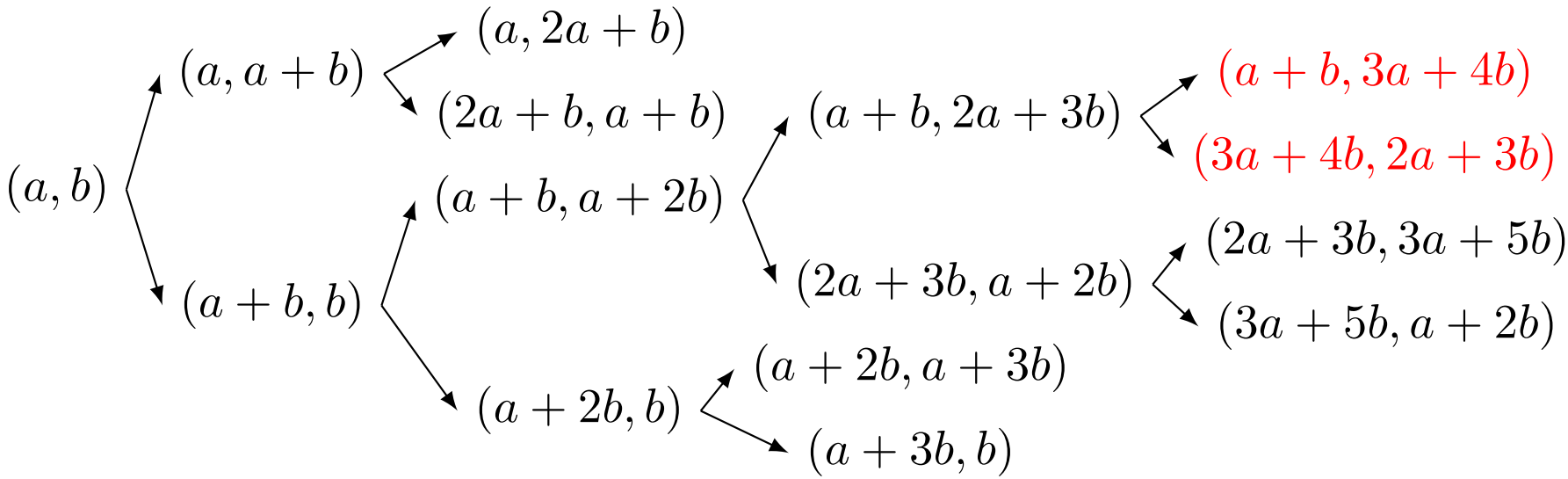


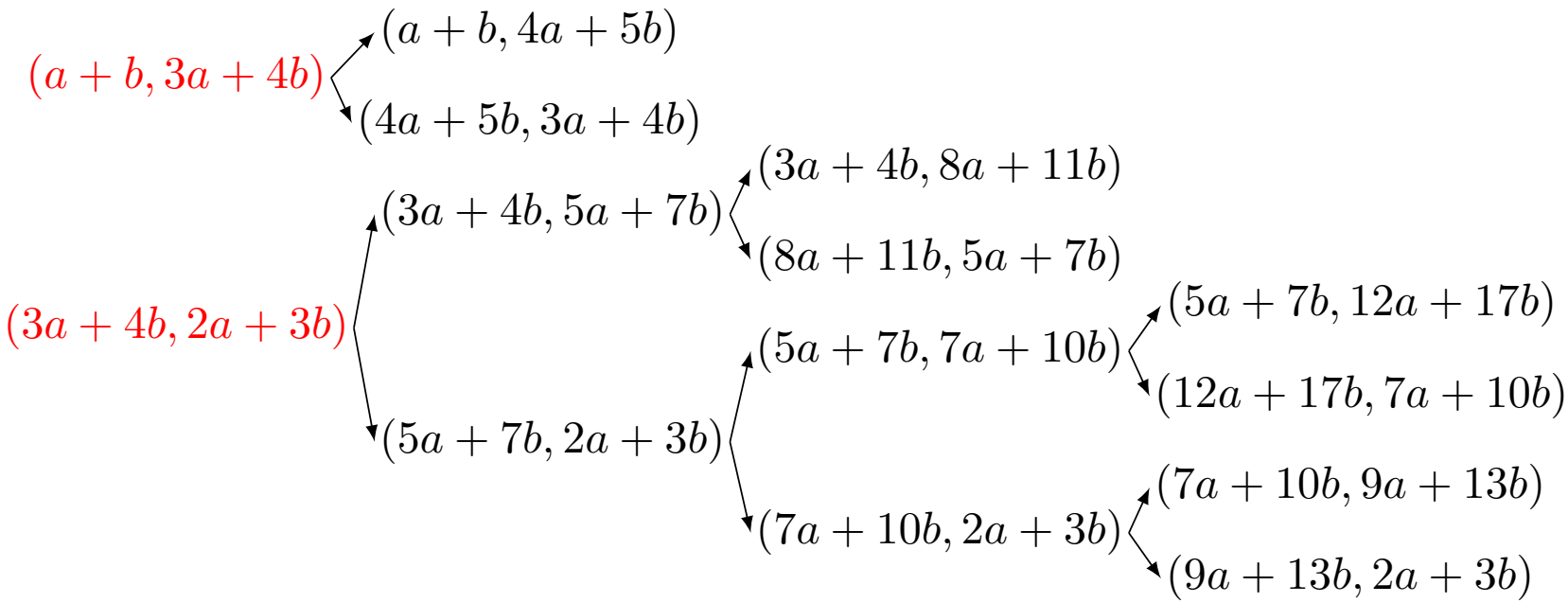

$(a+b, 3a+4b)$
$(a+b, 4a+5b)$
$(4a+5b, 3a+4b)$
$(3a+4b, 2a+3b)$
$(3a+4b, 5a+7b)$
$(5a+7b, 2a+3b)$


$(2a+3b, 3a+5b)$
$(2a+3b, 5a+8b)$
$(5a+8b, 3a+5b)$
$(3a+5b, a+2b)$
$(3a+5b, 4a+7b)$
$(4a+7b, a+2b)$
$(2a+3b, 7a+11b)$
$(7a+11b, 5a+8b)$
$(5a+8b, 8a+13b)$
$(8a+13b, 3a+5b)$
$(5a+8b, 13a+21b)$
$(13a+21b, 8a+13b)$
$(8a+13b, 11a+18b)$
$(11a+18b, 3a+5b)$
$(8a+13b, 19a+31b)$
$(19a+31b, 11a+18b)$
$(11a+18b, 14a+23b)$
$(14a+23b, 3a+5b)$

$$\begin{aligned}\mathrm{APT}_P(a,b) = \Big\{ & (a,b),\ (a,a+b),\ (a+b,b),\ (a,2a+b) \\ & (2a+b,a+b),\ (a+b,a+2b),\ (a+2b,b), \\ & (a+b,2a+3b),\ (2a+3b,a+2b),\ (a+2b,a+3b), \\ & (a+3b,b),\ (a+b,3a+4b),\ (3a+4b,2a+3b), \\ & (2a+3b,3a+5b),\ (3a+5b,a+2b),\ (a+b,4a+5b), \\ & (4a+5b,3a+4b),\ (3a+4b,5a+7b),\ (5a+7b,2a+3b), \\ & (2a+3b,5a+8b),\ (5a+8b,3a+5b),\ (3a+5b,4a+7b), \\ & (4a+7b,a+2b),\ (2a+3b,7a+11b),\ (7a+11b,5a+8b), \\ & (5a+8b,8a+13b),\ (8a+13b,3a+5b),\ (5a+8b,13a+21b), \\ & (13a+21b,8a+13b),\ (8a+13b,11a+18b),\ (11a+18b,3a+ \\ & (8a+13b,19a+31b),\ (19a+31b,11a+18b),\ (11a+18b,14a \\ & (14a+23b,3a+5b)\Big\}. \end{aligned}$$

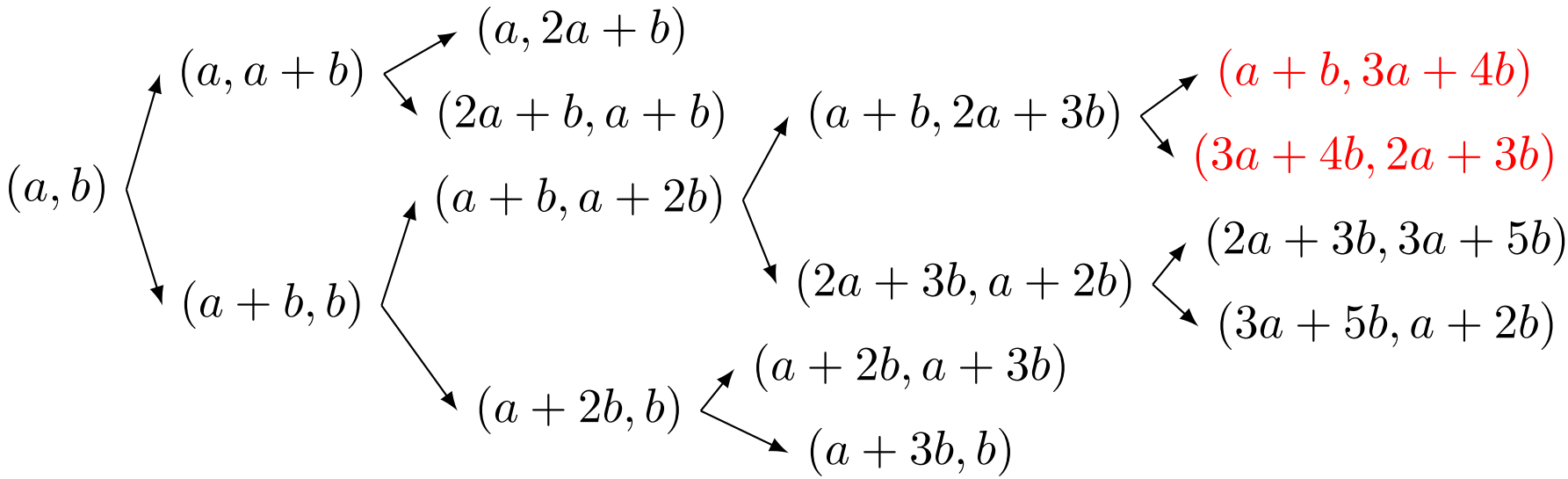
(2) $P = \{p, q, r, s\},\ N_P(a) = p,\ N_P(b) = q,\ N_P(a+b) = r,$
$N_P(2a+3b) = s,$
(iv) $p = 2,\ q = 5,\ r \neq 3.$

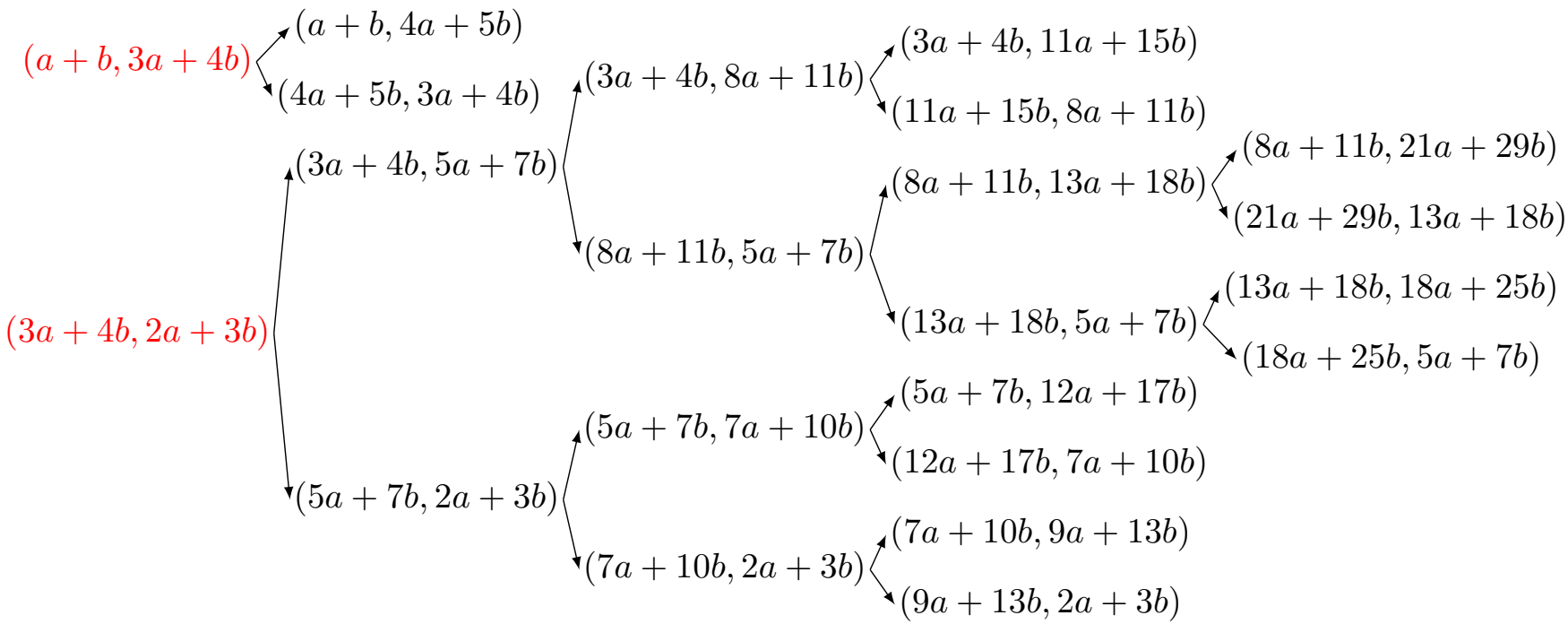



$(a+b, 3a+4b)$
$(a+b, 4a+5b)$
$(4a+5b, 3a+4b)$
$(3a+4b, 2a+3b)$
$(3a+4b, 5a+7b)$
$(3a+4b, 8a+11b)$
$(8a+11b, 5a+7b)$
$(5a+7b, 2a+3b)$
$(5a+7b, 7a+10b)$
$(5a+7b, 12a+17b)$
$(12a+17b, 7a+10b)$
$(7a+10b, 2a+3b)$
$(7a+10b, 9a+13b)$
$(9a+13b, 2a+3b)$

$$\mathrm{APT}_P(a,b) =$$
$$\Big\{(a,b),\ (a,a+b),\ (a+b,b),\ (a,2a+b)$$
$$(2a+b,a+b),\ (a+b,a+2b),\ (a+2b,b),$$
$$(a+b,2a+3b),\ (2a+3b,a+2b),\ (a+2b,a+3b),$$
$$(a+3b,b),\ (a+b,3a+4b),\ (3a+4b,2a+3b),$$
$$(2a+3b,3a+5b),\ (3a+5b,a+2b),\ (a+b,4a+5b),$$
$$(4a+5b,3a+4b),\ (3a+4b,5a+7b),\ (5a+7b,2a+3b),$$
$$(3a+4b,8a+11b),\ (8a+11b,5a+7b),\ (5a+7b,7a+10b),$$
$$(7a+10b,2a+3b),\ (5a+7b,12a+17b),\ (12a+17b,7a+10b),$$
$$(7a+10b,9a+13b),\ (9a+13b,2a+3b)\Big\}.$$

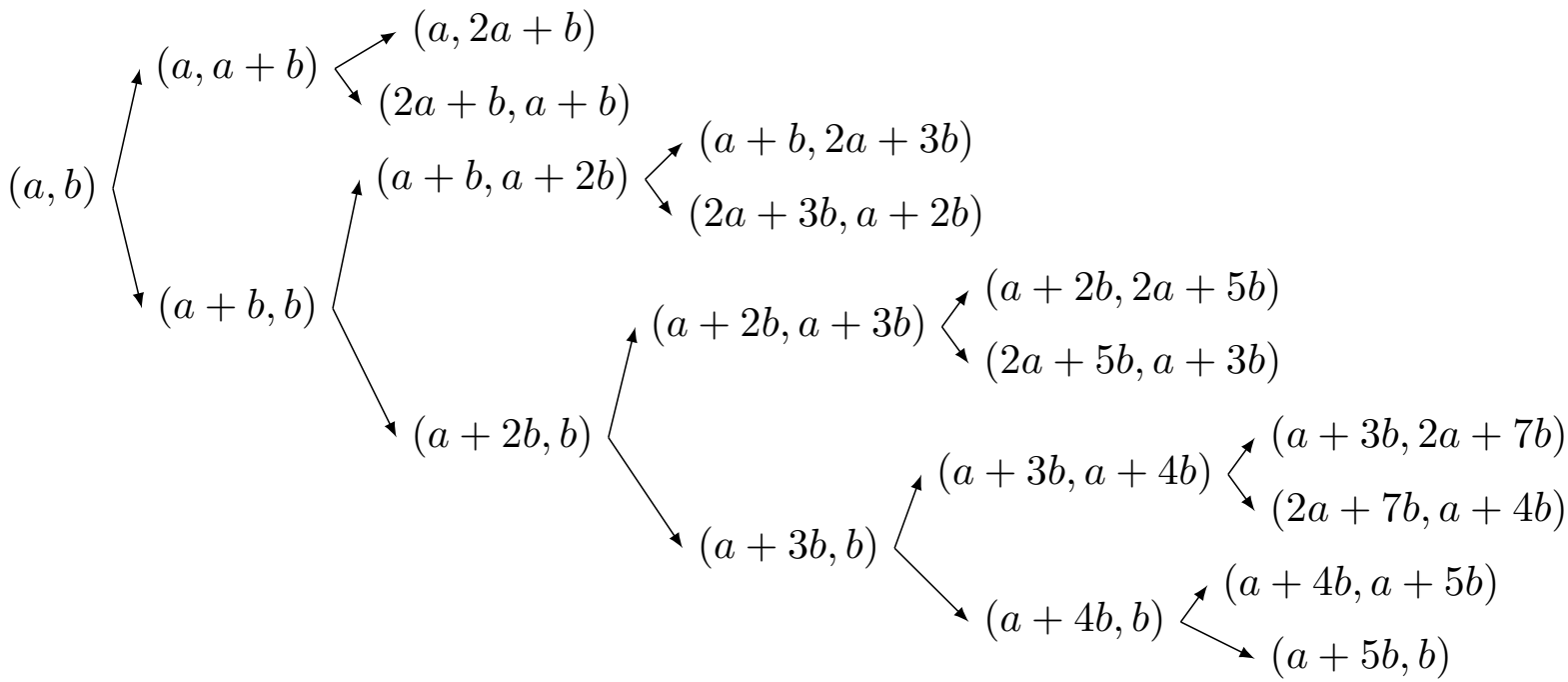
(2) $P = \{p, q, r, s\},\ N_P(a) = p,\ N_P(b) = q,\ N_P(a+b) = r,$
$N_P(2a+3b) = s,$
(v) $p = 2,\ q = 5,\ r = 3.$




$(a+b, 3a+4b)$
$(a+b, 4a+5b)$
$(4a+5b, 3a+4b)$
$(3a+4b, 2a+3b)$
$(3a+4b, 5a+7b)$
$(5a+7b, 2a+3b)$
$(3a+4b, 8a+11b)$
$(8a+11b, 5a+7b)$
$(5a+7b, 7a+10b)$
$(7a+10b, 2a+3b)$
$(3a+4b, 11a+15b)$
$(11a+15b, 8a+11b)$
$(8a+11b, 13a+18b)$
$(13a+18b, 5a+7b)$
$(5a+7b, 12a+17b)$
$(12a+17b, 7a+10b)$
$(7a+10b, 9a+13b)$
$(9a+13b, 2a+3b)$
$(8a+11b, 21a+29b)$
$(21a+29b, 13a+18b)$
$(13a+18b, 18a+25b)$
$(18a+25b, 5a+7b)$

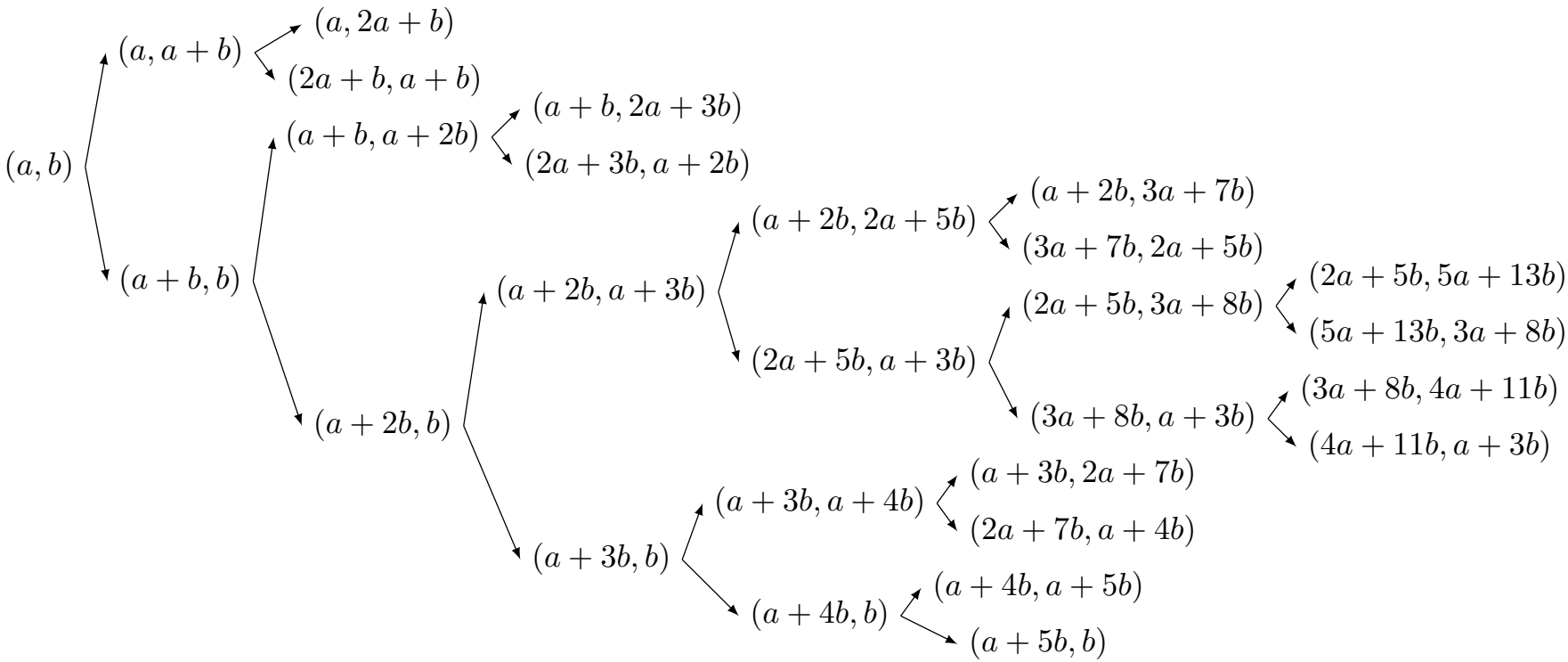
$$\mathrm{APT}_P(a,b) =$$
$$\Big\{(a,b),\ (a,a+b),\ (a+b,b),\ (a,2a+b)$$
$$(2a+b,a+b),\ (a+b,a+2b),\ (a+2b,b),$$
$$(a+b,2a+3b),\ (2a+3b,a+2b),\ (a+2b,a+3b),$$
$$(a+3b,b),\ (a+b,3a+4b),\ (3a+4b,2a+3b),$$
$$(2a+3b,3a+5b),\ (3a+5b,a+2b),\ (a+b,4a+5b),$$
$$(4a+5b,3a+4b),\ (3a+4b,5a+7b),\ (5a+7b,2a+3b),$$
$$(3a+4b,8a+11b),\ (8a+11b,5a+7b),\ (5a+7b,7a+10b),$$
$$(7a+10b,2a+3b),\ (3a+4b,11a+15b),\ (11a+15b,8a+11b),$$
$$(8a+11b,13a+18b),\ (13a+18b,5a+7b),\ (5a+7b,12a+17b),$$
$$(12a+17b,7a+10b),\ (7a+10b,9a+13b),\ (9a+13b,2a+3b),$$
$$(8a+11b,21a+29b),\ (21a+29b,13a+18b),$$
$$(13a+18b,18a+25b),\ (18a+25b,5a+7b)\Big\}.$$

(3) $P = \{p, q, r, s\},\ N_P(a) = p,\ N_P(b) = q,\ N_P(a+b) = r,$
$N_P(a+3b) = s,\ N_P(2a+b) = 1,$
(i) $p = 2,\ r \neq 3, 5.$



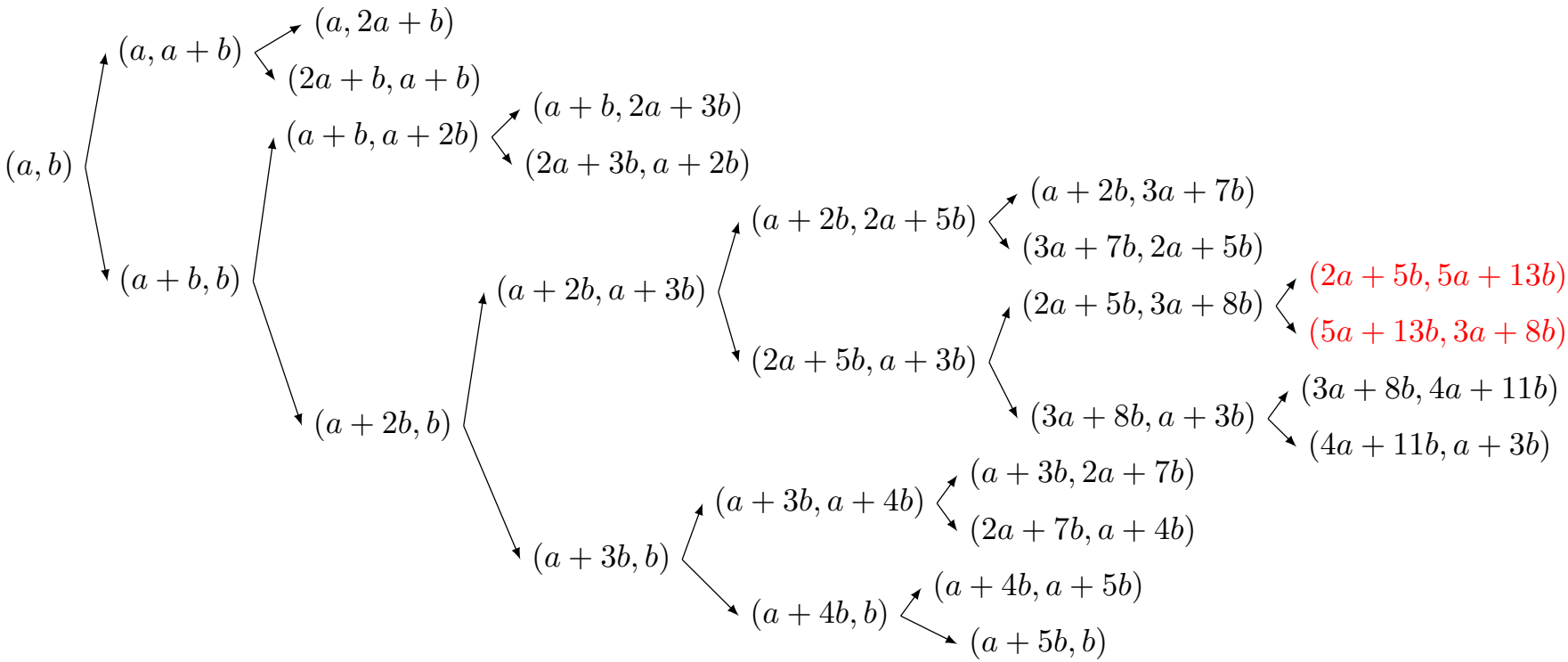
$$\begin{aligned}\mathrm{APT}_P(a,b) = \Big\{ & (a,b),\ (a,a+b),\ (a+b,b),\ (a,2a+b) \\ & (2a+b,a+b),\ (a+b,a+2b),\ (a+2b,b), \\ & (a+b,2a+3b),\ (2a+3b,a+2b),\ (a+2b,a+3b), \\ & (a+3b,b),\ (a+2b,2a+5b),\ (2a+5b,a+3b), \\ & (a+3b,a+4b),\ (a+4b,b),\ (a+3b,2a+7b), \\ & (2a+7b,a+4b),\ (a+4b,a+5b),\ (a+5b,b) \Big\}.\end{aligned}$$

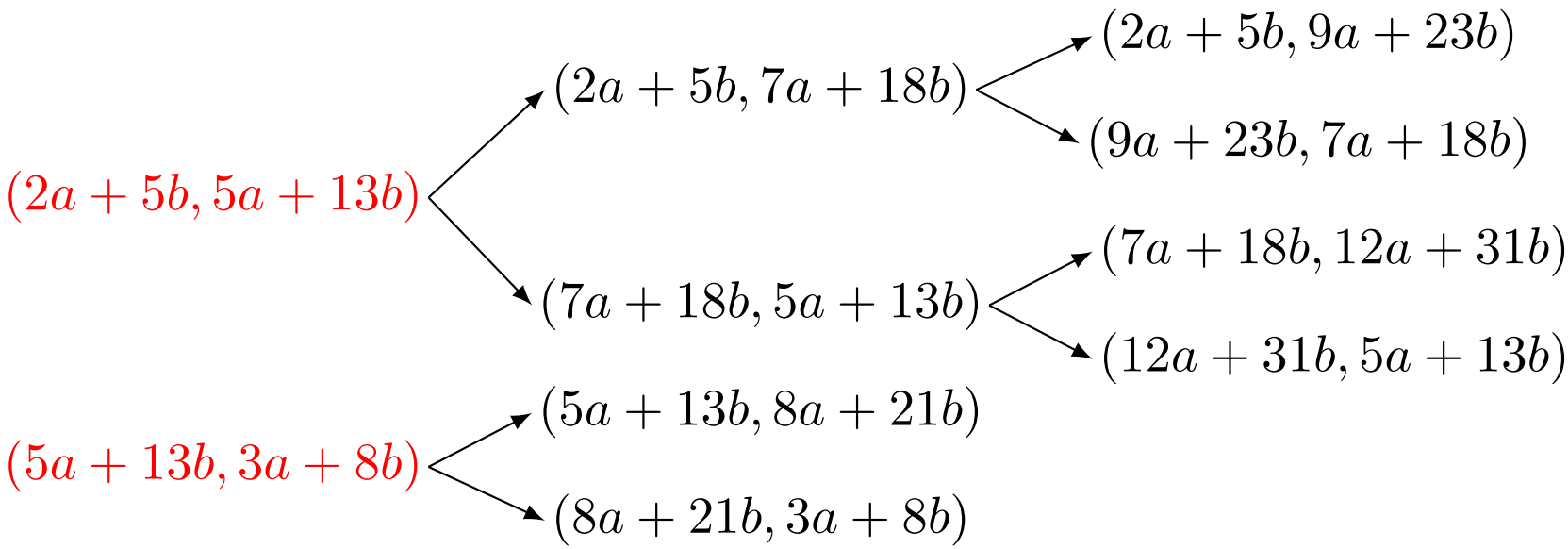
(3) $P = \{p, q, r, s\},\ N_P(a) = p,\ N_P(b) = q,\ N_P(a+b) = r,$
$N_P(a+3b) = s,\ N_P(2a+b) = 1,$
(ii) $p = 2,\ r = 3,\ q \neq 5.$



$$\begin{aligned}\mathrm{APT}_P(a,b) = \Big\{&(a,b),\ (a,a+b),\ (a+b,b),\ (a,2a+b)\\
&(2a+b,a+b),\ (a+b,a+2b),\ (a+2b,b),\\
&(a+b,2a+3b),\ (2a+3b,a+2b),\ (a+2b,a+3b),\\
&(a+3b,b),\ (a+2b,2a+5b),\ (2a+5b,a+3b),\\
&(a+3b,a+4b),\ (a+4b,b),\ (a+2b,3a+7b),\\
&(3a+7b,2a+5b),\ (2a+5b,3a+8b),\ (3a+8b,a+3b),\\
&(a+3b,2a+7b),\ (2a+7b,a+4b),\ (a+4b,a+5b)\\
&(a+5b,b),\ (2a+5b,5a+13b),\ (5a+13b,3a+8b),\\
&(3a+8b,4a+11b),\ (4a+11b,a+3b)\Big\}.\end{aligned}$$

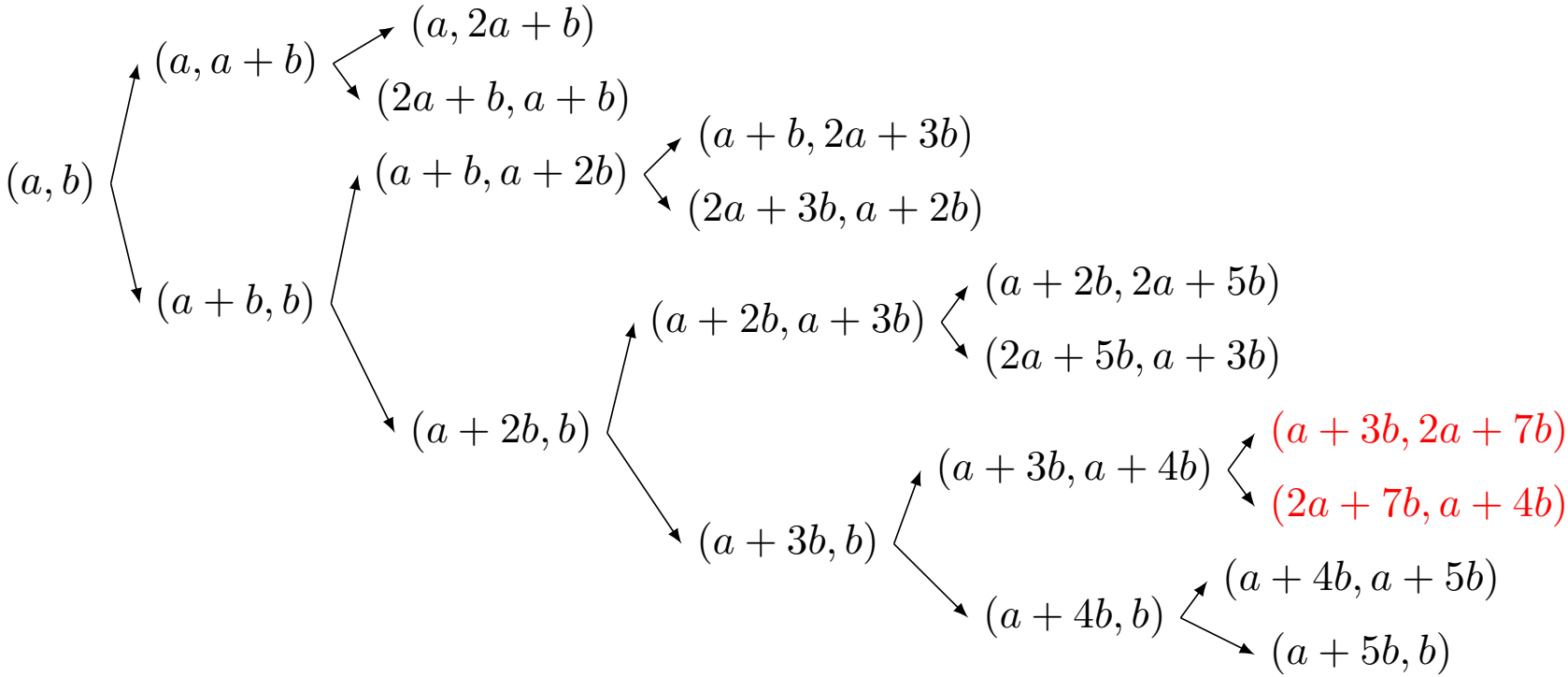
(3) $P = \{p, q, r, s\},\ N_P(a) = p,\ N_P(b) = q,\ N_P(a+b) = r,$
$N_P(a+3b) = s,\ N_P(2a+b) = 1,$
(iii) $p = 2,\ r = 3,\ q = 5.$

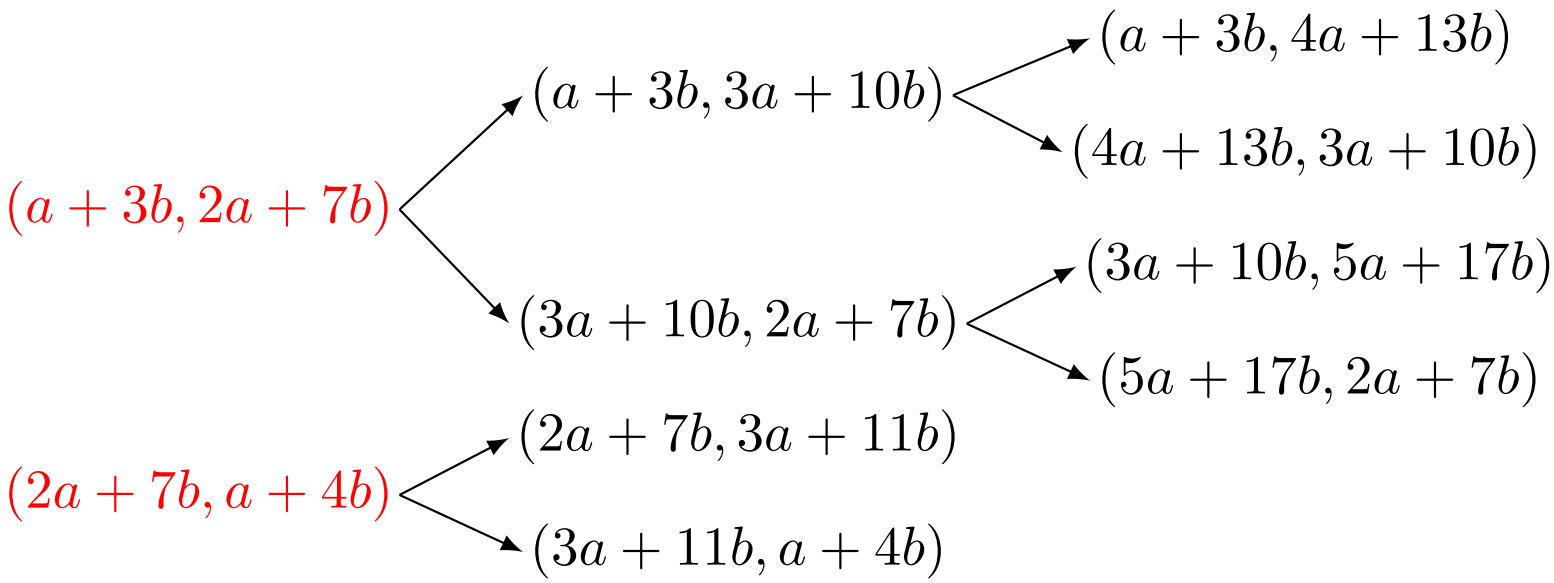



$(2a+5b, 5a+13b)$
$(2a+5b, 7a+18b)$
$(2a+5b, 9a+23b)$
$(9a+23b, 7a+18b)$
$(7a+18b, 5a+13b)$
$(7a+18b, 12a+31b)$
$(12a+31b, 5a+13b)$
$(5a+13b, 3a+8b)$
$(5a+13b, 8a+21b)$
$(8a+21b, 3a+8b)$

$$\begin{aligned}\mathrm{APT}_P(a,b) = \Big\{ & (a,b),\ (a,a+b),\ (a+b,b),\ (a,2a+b) \\ & (2a+b,a+b),\ (a+b,a+2b),\ (a+2b,b), \\ & (a+b,2a+3b),\ (2a+3b,a+2b),\ (a+2b,a+3b), \\ & (a+3b,b),\ (a+2b,2a+5b),\ (2a+5b,a+3b), \\ & (a+3b,a+4b),\ (a+4b,b),\ (a+2b,3a+7b), \\ & (3a+7b,2a+5b),\ (2a+5b,3a+8b),\ (3a+8b,a+3b), \\ & (a+3b,2a+7b),\ (2a+7b,a+4b),\ (a+4b,a+5b) \\ & (a+5b,b),\ (2a+5b,5a+13b),\ (5a+13b,3a+8b), \\ & (3a+8b,4a+11b),\ (4a+11b,a+3b), \\ & (2a+5b,7a+18b),\ (7a+18b,5a+13b), \\ & (5a+13b,8a+21b),\ (8a+21b,3a+8b), \\ & (2a+5b,9a+23b),\ (9a+23b,7a+18b), \\ & (7a+18b,12a+31b),\ (12a+31b,5a+13b) \Big\}.\end{aligned}$$

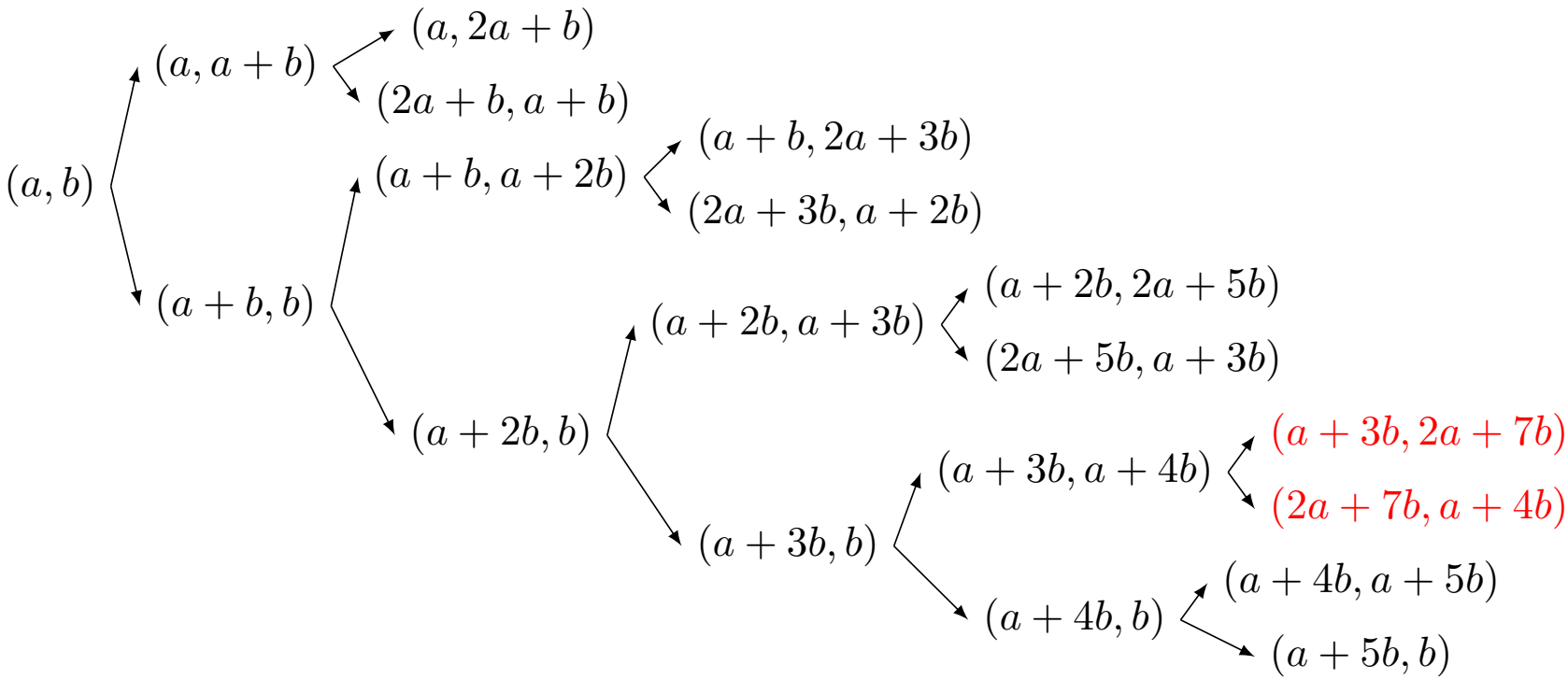
(3) $P = \{p, q, r, s\},\ N_P(a) = p,\ N_P(b) = q,\ N_P(a+b) = r,$
$N_P(a+3b) = s,\ N_P(2a+b) = 1,$
(iv) $p = 2,\ r = 5,\ q \neq 3.$

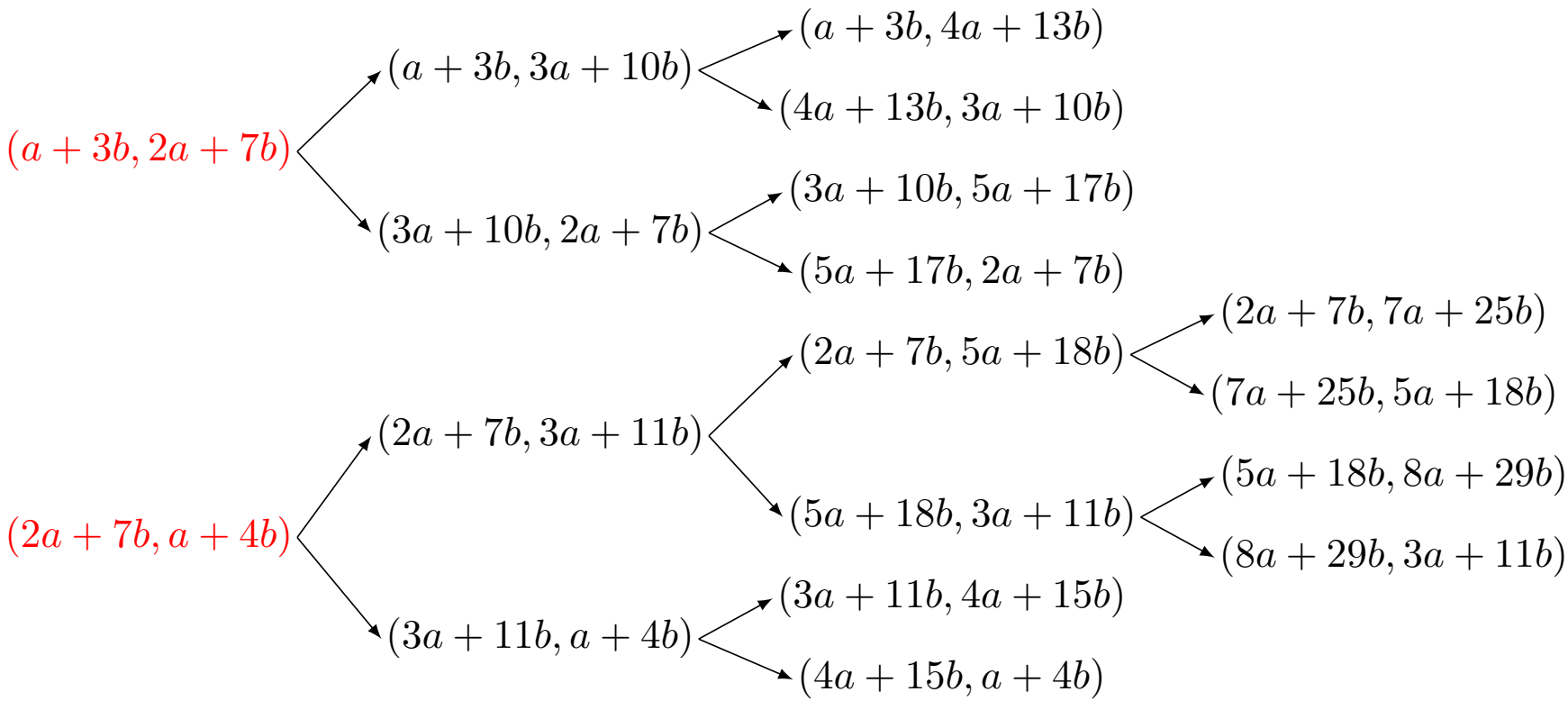



$(a+3b, 2a+7b)$
$(a+3b, 3a+10b)$
$(3a+10b, 2a+7b)$
$(a+3b, 4a+13b)$
$(4a+13b, 3a+10b)$
$(3a+10b, 5a+17b)$
$(5a+17b, 2a+7b)$
$(2a+7b, a+4b)$
$(2a+7b, 3a+11b)$
$(3a+11b, a+4b)$

$$\begin{aligned}\mathrm{APT}_P(a,b) = \Big\{ & (a,b),\ (a,a+b),\ (a+b,b),\ (a,2a+b) \\ & (2a+b,a+b),\ (a+b,a+2b),\ (a+2b,b), \\ & (a+b,2a+3b),\ (2a+3b,a+2b),\ (a+2b,a+3b), \\ & (a+3b,b),\ (a+2b,2a+5b),\ (2a+5b,a+3b), \\ & (a+3b,a+4b),\ (a+4b,b),\ (a+3b,2a+7b), \\ & (2a+7b,a+4b),\ (a+4b,a+5b),\ (a+5b,b), \\ & (a+3b,3a+10b),\ (3a+10b,2a+7b),\ (2a+7b,3a+11b) \\ & (3a+11b,a+4b),\ (a+3b,4a+13b), \\ & (4a+13b,3a+10b),\ (3a+10b,5a+17b), \\ & (5a+17b,2a+7b)\Big\}.\end{aligned}$$

(3) $P = \{p, q, r, s\},\ N_P(a) = p,\ N_P(b) = q,\ N_P(a+b) = r,$
$N_P(a+3b) = s,\ N_P(2a+b) = 1,$
(v) $p = 2,\ r = 5,\ q = 3.$




$(a+3b, 2a+7b)$
$(a+3b, 3a+10b)$
$(3a+10b, 2a+7b)$
$(a+3b, 4a+13b)$
$(4a+13b, 3a+10b)$
$(3a+10b, 5a+17b)$
$(5a+17b, 2a+7b)$
$(2a+7b, a+4b)$
$(2a+7b, 3a+11b)$
$(3a+11b, a+4b)$
$(2a+7b, 5a+18b)$
$(5a+18b, 3a+11b)$
$(3a+11b, 4a+15b)$
$(4a+15b, a+4b)$
$(2a+7b, 7a+25b)$
$(7a+25b, 5a+18b)$
$(5a+18b, 8a+29b)$
$(8a+29b, 3a+11b)$

$$\begin{aligned}\mathrm{APT}_P(a,b) = \Big\{&(a,b),\ (a,a+b),\ (a+b,b),\ (a,2a+b)\\
&(2a+b,a+b),\ (a+b,a+2b),\ (a+2b,b),\\
&(a+b,2a+3b),\ (2a+3b,a+2b),\ (a+2b,a+3b),\\
&(a+3b,b),\ (a+2b,2a+5b),\ (2a+5b,a+3b),\\
&(a+3b,a+4b),\ (a+4b,b),\ (a+3b,2a+7b),\\
&(2a+7b,a+4b),\ (a+4b,a+5b),\ (a+5b,b),\\
&(a+3b,3a+10b),\ (3a+10b,2a+7b),\ (2a+7b,3a+11b),\\
&(3a+11b,a+4b),\ (a+3b,4a+13b),\\
&(4a+13b,3a+10b),\ (3a+10b,5a+17b),\\
&(5a+17b,2a+7b),\ (2a+7b,5a+18b),\\
&(5a+18b,3a+11b),\ (3a+11b,4a+15b),\\
&(4a+15b,a+4b),\ (2a+7b,7a+25b),\\
&(7a+25b,5a+18b),\ (5a+18b,8a+29b),\\
&(8a+29b,3a+11b)\Big\}.\end{aligned}$$