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ON UNIVERSAL SUMS $x(ax+b)/2+y(cy+d)/2+z(ez+f)/2$

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Abstract. Let a,b,c,d,e,f be integers with $a>b\geqslant 0$, $c>d\geqslant 0$, $e>f\geqslant 0$, $a\equiv b\pmod 2$, $c\equiv d\pmod 2$, $e\equiv f\pmod 2$, $a\geqslant c\geqslant e\geqslant 2$, and $b\geqslant d$ if $a=c$, and $d\geqslant f$ if $c=e$. Recently, the author showed that if the ordered tuple (a,b,c,d,e,f) is universal over $\mathbb{Z}$ (i.e., each $n=0,1,2,\ldots$ can be written as $x(ax+b)/2+y(cy+d)/2+z(ez+f)/2$ with $x,y,z\in\mathbb{Z}$) then it must be among our list of 12082 tuples. In this paper we list all the 12082 tuples explicitly and analyse the data, and prove that many of them with $a\leqslant 10$ are indeed universal over $\mathbb{Z}$.

1. Introduction

Let $\mathbb{N}=\{0,1,2,\ldots\}$. In 1796 Gauss proved that any $n\in\mathbb{N}$ can be written as $x(x+1)/2+y(y+1)/2+z(z+1)/2$ with $x,y,z\in\mathbb{Z}$, which was an assertion claimed by Fermat. Those $T_x:=x(x+1)/2$ with $x\in\mathbb{Z}$ are called *triangular numbers*. It is easy to see that $8T_x+1=(2x+1)^2$ and

$$\{T_x:\ x\in\mathbb{Z}\}=\left\{\frac{x(4x+2)}{2}=x(2x+1):\ x\in\mathbb{Z}\right\}.$$

An extension of Gauss' triangular result is the well-known Gauss-Legendre theorem which asserts that

$$\{x^2+y^2+z^2:\ x,y,z\in\mathbb{Z}\}=\mathbb{N}\setminus\{4^k(8l+7):\ k,l\in\mathbb{N}\}.$$

For integer-valued polynomials $f_1(x),f_2(x),f_3(x)$ with $f_1(\mathbb{Z}),f_2(\mathbb{Z}),f_3(\mathbb{Z})\subseteq\mathbb{N}$, if $\{f_1(x)+f_2(y)+f_3(z):\ x,y,z\in\mathbb{Z}\}=\mathbb{N}$ then we say that the sum $f_1(x)+f_2(y)+f_3(z)$ is *universal over* $\mathbb{Z}$. Thus Gauss' triangular theorem asserts that $T_x+T_y+T_z$ is universal over $\mathbb{Z}$.

In 1862 Liouville (cf. Berndt [1, p. 82] and Dickson [3, p. 23]) determined all the universal sums of the type $aT_x+bT_y+cT_z$ (or the equivalent sums $ax(2x+1)+by(2y+1)+cz(2z+1)$) with a,b,c positive integers. The universal sums of the type $ax^2+by^2+cT_z$ (or

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$ax^2+by^2+cz(2z+1)$) or the form $ax^2+bT_y+cT_z$ with a,b,c positive integers were determined in [13, 5, 11].

Sun [13, 14] initiated the investigation of ternary universal sums of mixed polygonal numbers. The papers [14, 4, 10, 9] contain many universal sums (over $\mathbb{Z}$) of the type

$$a\frac{x((i-2)x+i-4)}{2}+b\frac{y((j-2)y+j-4)}{2}+c\frac{z((k-2)z+k-4)}{2}$$

with $a,b,c\in\{1,2,3,\ldots\}$ and $i,j,k\in\{3,4,5,\ldots\}$. In 2016 the author proposed some universal sums over $\mathbb{Z}$ involving triangular numbers and generalized pentagonal numbers, and some of them were later studied by his graduate student Su [12]. Wu and Sun [19] observed that

$$\left\{T_x+\frac{y(3y+1)}{2}:\ x,y\in\mathbb{Z}\right\}=\left\{\frac{x(3x+1)}{2}+3\frac{y(3y+1)}{2}:\ x,y\in\mathbb{Z}\right\}. \tag{1.1}$$

Sun [16] showed that for integers $0\leqslant b\leqslant c\leqslant d\leqslant a$ with $a>2$, the sum $x(ax+b)+y(ay+c)+z(az+d)$ is universal over $\mathbb{Z}$, if and only if the quadruple (a,b,c,d) is among

$$(3,0,1,2),\ (3,1,1,2),\ (3,1,2,2),\ (3,1,2,3),\ (4,1,2,3).$$

Sun [16] also proved that $x(ax+1)+y(by+1)+z(cz+1)$ is universal over $\mathbb{Z}$ if (a,b,c) is among the following seven triples

$$(1,2,3),\ (1,2,4),\ (1,2,5),\ (2,2,4),\ (2,2,5),\ (2,3,3),\ (2,3,4).$$

Ju and Oh [8] showed that $x(ax+1)+y(by+1)+z(cz+1)$ is also universal over $\mathbb{Z}$ for $(a,b,c)=(2,2,6),(2,3,5),(2,3,7)$ as conjectured by Sun [16].

For integers $a>b\geqslant 0$ with $a\equiv b\pmod 2$, clearly

$$\left\{\frac{x(ax+b)}{2}:\ x\in\mathbb{Z}\right\}\subseteq\mathbb{N}.$$

Recently, the author [18] showed the following theorem.

Theorem 1.1. (Sun [18]) *Let a,b,c,d,e,f be integers with $a>b\geqslant 0$, $c>d\geqslant 0$, $e>f\geqslant 0$, $a\equiv b\pmod 2$, $c\equiv d\pmod 2$, $e\equiv f\pmod 2$, $a\geqslant c\geqslant e\geqslant 2$, and $b\geqslant d$ if $a=c$, and $d\geqslant f$ if $c=e$. Suppose that the ordered tuple (a,b,c,d,e,f) is universal over $\mathbb{Z}$, i.e., each $n\in\mathbb{N}$ can be written as $x(ax+b)/2+y(cy+d)/2+z(ez+f)/2$ with $x,y,z\in\mathbb{Z}$. Then (a,b,c,d,e,f) must be among the 12082 tuples listed in the Appendix (or [17] in OEIS).*

In the proof of Theorem 1.1 given in [18], the author first showed that $ce\geqslant 1000$ and $e\leqslant c\leqslant a\leqslant 218$, or $ce<1000$ and $e\leqslant c\leqslant a\leqslant 185$, and then used a computer to check the finite remaining cases. Below we provide a lemma which helps us simplify the computational task in the proof of Theorem 1.1.

Lemma 1.1. *Under the condition of Theorem 1.1, we have*

$$e \leqslant 16,\ \ c \leqslant 61,\ \ \text{and } a \leqslant 185.$$

Proof. If $(a+b)/2, (c+d)/2, (e+f)/2$ are all greater than 8, and $n \in \{0,\ldots,8\}$ can be written as $x(ax+b)/2+y(cy+d)/2+z(ez+f)/2$ with $x,y,z \in \mathbb{Z}$, then $x,y,z \in \{0,-1\}$. As

$$\left|\left\{\frac{x(ax+b)}{2}+\frac{y(cy+d)}{2}+\frac{z(ez+f)}{2}:\ x,y,z \in \{0,-1\}\right\}\right| \\ \leqslant 2^3 < |\{0,\ldots,8\}|,$$

we must have

$$\min\left\{\frac{a+b}{2},\frac{c+d}{2},\frac{e+f}{2}\right\} \leqslant 8$$

and hence $e = \min\{a,c,e\} \leqslant 16$.

The first 7 positive numbers in the set $S(e,f) = \{z(ez+f)/2 :\ z \in \mathbb{Z}\}$ in the ascending order are

$$\frac{e-f}{2},\ \frac{e+f}{2},\ 2e-f,\ 2e+f,\ \frac{3(3e-f)}{2},\ \frac{3(3e+f)}{2},\ 2(4e-f).$$

If $e \geqslant 5$, then $2(4e-f) \geqslant 2(4e-(e-2)) = 2(3e+2) \geqslant 2(3\times5+2) > 33$ and hence

$$|S(e,f) \cap \{1,\ldots,33\}| \leqslant 6.$$

Note also that

$$\begin{aligned} |S(2,0) \cap \{1,\ldots,33\}| &= |\{1,4,9,16,25\}| = 5, \\ |S(3,1) \cap \{1,\ldots,33\}| &= |\{1,2,5,7,12,15,22,26\}| = 8, \\ |S(4,0) \cap \{1,\ldots,33\}| &= |\{2,8,18,32\}| = 4, \\ |S(4,2) \cap \{1,\ldots,33\}| &= |\{1,3,6,10,15,21,28\}| = 7. \end{aligned}$$

So we always have

$$|S(e,f) \cap \{1,\ldots,33\}| \leqslant 8.$$

If $(a+b)/2$ and $(c+d)/2$ are both greater than 33, and $n \in \{1,\ldots,33\}$ can be written as $x(ax+b)/2+y(cy+d)/2+z(ez+f)/2$ with $x,y,z \in \mathbb{Z}$, then $x,y \in \{0,-1\}$. As

$$\left|\left\{\frac{x(ax+b)}{2}+\frac{y(cy+d)}{2}:\ x,y \in \{0,-1\}\right\}\right| \times |S(e,f) \cap \{1,\ldots,33\}|$$

is at most $4 \times 8 = 32$, we must have $\min\{(a+b)/2, (c+d)/2\} \leqslant 33$. Note that $\max\{(a-b)/2, (c-d)/2\} \leqslant 28$ by [18, Proof of Theorem 1.7]. So $c = \min\{a, c\} \leqslant 33 + 28 = 61$.

Since $ce \leqslant 61 \times 16 = 976 < 1000$, by [18, Proof of Theorem 1.7] we have $a \leqslant 185$.

The proof of Lemma 1.1 is now complete. □

Sun [18] made the following conjecture.

Conjecture 1.1. *All the* 12082 *tuples* (a, b, c, d, e, f) *listed in the Appendix are universal over* $\mathbb{Z}$.

For the 12082 tuples (a, b, c, d, e, f) listed in the Appendix, we note that $e \leqslant 5$ if $a > 50$. The largest value of a with (a, b, c, d, e, f) listed in the Appendix is 171, the largest value of c with (a, b, c, d, e, f) listed in the Appendix is 22, and the largest value of e with (a, b, c, d, e, f) listed in the Appendix is 11. In particular,

$$(171, 143, 7, 1, 3, 1),\ (25, 19, 22, 10, 3, 1),\ (12, 4, 11, 9, 11, 7),$$
$$(12, 8, 12, 4, 11, 9),\ (13, 9, 12, 10, 11, 3)$$

are listed in the Appendix.

On the list of 12082 tuples in the Appendix, those tuples (a, b, c, d, e, f) with $a > 100$ are as follows:

$$\begin{aligned}
&(a, a-22, 6, 2, 5, 3)\ (a = 102, 105, 109, 110, 112, 116, 117, 121, 128),\\
&(a, a-4, 7, 5, 3, 1)\ (a = 101, 103, 104, 105, 107, 111, 112, 114, 116,\\
&\qquad\qquad 117, 118, 119, 121, 123, 124, 127, 129, 130, 131),\\
&(a, a-4, 3, 1, 2, 0)\ (a = 101, 102, 104, 105, 107, 111, 112, 114, 116,\\
&\qquad\qquad 120, 122, 123, 126, 128, 129, 130, 132, 133),\\
&(a, a-38, 7, 1, 3, 1)\ (a = 102, 103, 104, 105, 106, 108,\\
&\qquad\qquad 111, 115, 117, 118, 119),\\
&(a, a-28, 7, 1, 3, 1)\ (a = 101, 103, 104, 105, 107, 108, 109, 110, 112,\\
&\qquad\qquad 114, 116, 117, 118, 119, 120, 122, 125, 126, 127, 130,\\
&\qquad\qquad 133, 134, 137, 139, 140, 142, 143, 145, 146, 151, 153,\\
&\qquad\qquad 155, 158, 160, 161, 163, 164, 165, 170, 171).
\end{aligned}$$

The sums $ax^2 + by^2 + z(cz + d)/2$ (with $a, b \in \mathbb{Z}^+ = \{1, 2, 3, \ldots\}$, $c > d \geqslant 0$, $c \equiv d \pmod 2$ and $c \neq 2d$) whose corresponding tuples are among the 12082 tuples in the Appendix, are as follows:

$$\begin{aligned}
&x^2+y^2+\frac{z(5z+1)}{2},\ x^2+y^2+\frac{z(5z+3)}{2},\ x^2+y^2+\frac{z(9z+5)}{2},\\
&x^2+y^2+z(5z+3),\ x^2+2y^2+\frac{z(5z+1)}{2},\ x^2+2y^2+\frac{z(5z+3)}{2},\\
&x^2+2y^2+\frac{z(7z+1)}{2},\ x^2+2y^2+\frac{z(7z+3)}{2},\ x^2+2y^2+z(4z+3),\\
&x^2+2y^2+\frac{z(9z+1)}{2},\ x^2+2y^2+z(5z+1),\ x^2+2y^2+z(5z+2),\\
&x^2+2y^2+z(5z+4),\ x^2+2y^2+\frac{z(13z+11)}{2},\ x^2+2y^2+z(7z+3),\\
&x^2+2y^2+\frac{z(15z+7)}{2},\ 2x^2+2y^2+\frac{z(5z+3)}{2},\ x^2+3y^2+z(3z+1),\\
&2x^2+3y^2+\frac{z(3z+1)}{2},\ x^2+4y^2+\frac{z(3z+1)}{2},\ x^2+4y^2+z(5z+3),\\
&2x^2+4y^2+\frac{z(3z+1)}{2},\ 3x^2+4y^2+\frac{z(3z+1)}{2},\ x^2+5y^2+\frac{z(3z+1)}{2},\\
&x^2+5y^2+\frac{z(5z+1)}{2},\ x^2+6y^2+z(3z+1),\ x^2+6y^2+\frac{z(3z+1)}{2},\\
&2x^2+6y^2+\frac{z(3z+1)}{2},\ x^2+7y^2+\frac{z(3z+1)}{2},\ x^2+7y^2+z(3z+1),\\
&x^2+7y^2+\frac{z(7z+3)}{2},\ x^2+8y^2+\frac{z(3z+1)}{2},\ x^2+10y^2+\frac{z(3z+1)}{2},\\
&x^2+11y^2+\frac{z(3z+1)}{2},\ x^2+15y^2+\frac{z(3z+1)}{2}.
\end{aligned}$$

By [14, Theorem 1.7(ii), Theorem 1.11 and Theorem 1.20], the tuples $x^2+y^2+z(3z+1)/2$, $x^2+2y^2+z(3z+1)/2$ and $x^2+y^2+z(4z+3)$ are universal over $\mathbb{Z}$. For the sums

$$\begin{aligned}
&x^2+y^2+z(3z+1),\ x^2+2y^2+z(3z+1),\ x^2+3y^2+\frac{z(3z+1)}{2},\\
&x^2+3y^2+z(3z+2),\ 2x^2+3y^2+z(3z+2),
\end{aligned}$$

their universality over $\mathbb{Z}$ will be proved in Section 3. Some other sums on the above list that can be shown to be universal over $\mathbb{Z}$ will be listed in Theorem 1.2(i).

The triples (a,b,c) with $a \geqslant b \geqslant c \geqslant 1$ odd and the tuples $(a,1,b,1,c,1)$ listed in the Appendix are as follows:

$$(1,1,1),\ (3,1,1),\ (3,3,1),\ (3,3,3),\ (5,1,1),\ (5,3,1),\ (5,3,3),\ (5,5,1),$$
$$(5,5,3),\ (7,1,1),\ (7,3,1),\ (7,3,3),\ (7,5,1),\ (7,5,3),\ (7,7,3),\ (9,1,1),$$
$$(9,3,1),\ (9,3,3),\ (9,5,1),\ (9,5,3),\ (9,7,3),\ (11,1,1),\ (11,3,1),\ (11,3,3),$$
$$(11,5,1),\ (11,5,3),\ (11,7,3),\ (13,3,1),\ (13,3,3),\ (13,5,1),\ (13,5,3),$$
$$(13,7,3),\ (15,3,1),\ (15,3,3),\ (15,5,1),\ (15,7,3),\ (17,3,1),\ (17,3,3),$$
$$(17,7,3),\ (19,3,1),\ (19,3,3),\ (19,7,3),\ (21,3,3),\ (21,7,3),\ (23,3,3),$$
$$(23,7,3),\ (27,7,3),\ (29,7,3),\ (31,7,3),\ (33,7,3),\ (35,7,3),\ (37,7,3),$$
$$(39,7,3),\ (43,7,3).$$

In Sections 2 and 3 we will discuss universal tuples (a,b,c,d,e,f) over $\mathbb{Z}$ with $a \leqslant 5$ and $a = 6$ respectively. Our analyses in the two sections leave only 26 tuples (a,b,c,d,e,f) in the Appendix with $a \leqslant 6$ having not been proved to be universal over $\mathbb{Z}$.

In Section 4 we will prove the following theorem on some special universal tuples (a,b,c,d,e,f) over $\mathbb{Z}$ with $a > 6$.

Theorem 1.2. (i) *The following sums are universal over* $\mathbb{Z}$*:*

$$\begin{aligned}&x^2+y^2+z(4z+1),\ x^2+y^2+2z(3z+2),\\&x^2+2y^2+2z(3z+1),\ 2x^2+6y^2+\frac{z(3z+1)}{2}.\end{aligned}$$

(ii) *The following tuples are universal over* $\mathbb{Z}$*:*

$$(8,6,6,2,4,2),\ (9,1,4,2,2,0),\ (9,1,4,2,4,2),\ (9,1,6,2,3,1),$$
$$(9,1,6,4,3,1),\ (9,1,8,4,2,0),\ (9,1,5,3,5,1),\ (9,1,8,4,4,2),$$
$$(9,5,4,2,3,1),\ (9,5,6,4,3,1),\ (9,5,8,4,4,2),\ (10,2,4,2,3,1),$$
$$(10,4,4,2,2,0),\ (10,4,4,2,3,1),\ (10,4,6,2,3,1), (10,8,4,2,3,1),$$
$$(12,8,12,4,6,4),\ (16,8,3,1,2,0),\ (16,8,12,8,2,0),\ (18,12,4,2,3,1).$$

In the Appendix, we give a complete list of the 12082 candidates of universal tuples (a,b,c,d,e,f) over $\mathbb{Z}$. Those tuples marked with the star $*$ are known to be universal over $\mathbb{Z}$ in view of this paper and its references. Among the remaining tuples, some might be easy or equivalent to known universal tuples, but lots of them are probably quite challenging.

2. On universal tuples (a,b,c,d,e,f) over $\mathbb{Z}$ with $a\leqslant 5$

For $a,b,c\in\mathbb{Z}^+$ we set

$$E(a,b,c):=\mathbb{N}\setminus\{ax^2+by^2+cz^2:\ x,y,z\in\mathbb{Z}\}.$$

Dickson [2, pp. 112-113] listed $E(a,b,c)$ explicitly for 102 triples (a,b,c) with $a\leqslant b\leqslant c$ and $\gcd(a,b,c)=1$.

Among the 12082 tuples (a,b,c,d,e,f) listed in the Appendix, those with $a\leqslant 4$ are as follows:

$$\begin{gathered}(3,1,2,0,2,0),\ (3,1,3,1,2,0),\ (3,1,3,1,3,1),\ (4,0,3,1,2,0),\\ (4,0,3,1,3,1),\ (4,2,2,0,2,0),\ (4,2,3,1,2,0),\ (4,2,3,1,3,1),\\ (4,2,4,0,2,0),\ (4,2,4,0,3,1),\ (4,2,4,0,4,0),\ (4,2,4,2,2,0),\\ (4,2,4,2,3,1),\ (4,2,4,2,4,0),\ (4,2,4,2,4,2).\end{gathered}$$

All these tuples are universal over $\mathbb{Z}$ for the following reasons.

$(3,1,2,0,2,0)$ is universal over $\mathbb{Z}$ by [14, Theorem 1.7(ii)], $(3,1,3,1,2,0)$ is universal over $\mathbb{Z}$ by [14, Theorem 1.20], and $(3,1,3,1,3,1)$ is universal over $\mathbb{Z}$ by [6] (see also [14] for supplements to Guy's proof). Also, $(4,0,3,1,2,0)$ is universal over $\mathbb{Z}$ by [14, Theorem 1.7(ii)].

Let $n\in\mathbb{N}$. As $E(1,1,3)=\{9^k(9l+6):\ k,l\in\mathbb{N}\}$ by [D39, pp. 112-113], $24n+2=u^2+v^2+3w^2$ for some $u,v,w\in\mathbb{Z}$. If $2\nmid w$, then $u^2+v^2\equiv 2-3w^2\equiv 3\pmod 4$ which is impossible. If $w\equiv 2\pmod 4$, then $u^2+v^2\equiv 2-4\pmod 8$ which is impossible. Thus $w=4x$ for some $x\in\mathbb{Z}$. Clearly, both u and v are relatively to 6. So we may write u or $-u$ as $6y-1$, and v or $-v$ as $6z-1$, where $y,z\in\mathbb{Z}$. Thus $24n+2=48x^2+(6y-1)^2+(6z-1)^2$ and hence $n=2x^2+p_5(y)+p_5(z)$. Therefore $(4,0,3,1,3,1)$ is universal over $\mathbb{Z}$.

The ordered tuples $(4,2,3,1,2,0)$, $(4,2,3,1,3,1)$, $(4,2,4,0,3,1)$ and $(4,2,4,2,4,0)$ are universal over $\mathbb{Z}$ by [14, Theorem 1.7(i) and Theorem 1.14]. The tuples

$$\begin{gathered}(4,2,2,0,2,0),\ (4,2,4,0,2,0),\ (4,2,4,0,4,0),\\ (4,2,4,2,2,0),\ (4,2,4,2,4,0),\ (4,2,4,2,4,2)\end{gathered}$$

are universal since

$$T_x+y^2+z^2,\ T_x+2y^2+z^2,\ T_x+2y^2+2z^2,\ T_x+T_y+z^2,\ T_x+T_y+2z^2,\ T_x+T_y+T_z$$

are all universal over $\mathbb{Z}$.

Below we consider universal tuples (a,b,c,d,e,f) over $\mathbb{Z}$ with $a=5$. For this purpose, we need two lemmas.

Lemma 2.1. *Let $n>1$ be an integer with $n\equiv 1,9\pmod{20}$ or $n\equiv 11,19\pmod{40}$. Then we can write n as $5x^2+5y^2+z^2$ with*

$x, y, z \in \mathbb{Z}$ such that $x \not\equiv y \pmod 2$ if $n \equiv 1, 9 \pmod{20}$, and $2 \nmid y$ if $n \equiv 11, 19 \pmod{40}$.

Proof. As $n \equiv 1 \pmod 4$ or $n \equiv 3 \pmod 8$, by the Gauss-Legendre theorem n is the sum of three squares. As n is odd, in view of [18, Lemma 2.7] we can always write n as $w^2 + u^2 + v^2$ with $u, v, w \in \mathbb{Z}$ and $w^2, u^2, v^2 \neq n$. Without loss of generality, we assume that $2 \nmid w$ and $u \equiv v \pmod 2$. Clearly, $u \equiv v \equiv 0 \pmod 2$ if $n \equiv 1 \pmod 4$. If $w^2 \equiv -n \pmod 5$, then $u^2 + v^2 \equiv 2n \pmod 5$ and hence $u^2 \equiv v^2 \equiv n \pmod 5$. If $w^2 \equiv n \pmod 5$, then $u^2 + v^2$ is a positive multiple of 5 and hence by [16, Lemma 2.1] we can write it as $s^2 + t^2$, where s and t are integers with $s^2 \equiv -n \pmod 5$ and $t^2 \equiv n \pmod 5$. When $n \equiv 1 \pmod 4$, we have $s^2 + t^2 = u^2 + v^2 \equiv 0 \pmod 4$, we have $s \equiv t \equiv 0 \pmod 2$. If $5 \mid w$, then one of u^2 and v^2 is divisible by 5 and the other is congruent to n modulo 5.

By the above, there always exist $x, y, z \in \mathbb{Z}$ with $z^2 \equiv n \pmod 5$ such that $n = x^2 + y^2 + z^2$ and that $2 \mid z$ if $n \equiv 1 \pmod 4$. Note that $x^2 \equiv -y^2 \equiv (\pm 2y)^2 \pmod 5$. Without loss of generality, we assume that $x \equiv 2y \pmod 5$ and hence $2x \equiv -y \pmod 5$. Set $\bar{x} = (x - 2y)/5$ and $\bar{y} = (2x + y)/5$. Then

$$n = x^2 + y^2 + z^2 = 5\bar{x}^2 + 5\bar{y}^2 + z^2.$$

If $n \equiv 1 \pmod 4$, then $2 \mid z$ and hence $\bar{x} \not\equiv \bar{y} \pmod 2$. If $n \equiv 3 \pmod 8$, then $z^2 \not\equiv n \pmod 4$ and hence $\bar{x}$ or $\bar{y}$ is odd. This concludes the proof. □

Remark 2.1. The author [14, Theorem 1.7(iv)] showed by a different method that for any integer $n > 1$ with $n \equiv 1, 9 \pmod{20}$ we can write $n = 5x^2 + 5y^2 + (2z)^2$ with $x, y, z \in \mathbb{Z}$ if n is not a square.

Lemma 2.2. *We have*

$$\begin{aligned}&\left\{\frac{x(5x+1)}{2} + \frac{y(5y+3)}{2} :\ x, y \in \mathbb{Z}\right\} \\ =&\{T_x + T_y :\ x, y \in \mathbb{Z}\} = \{x^2 + 2T_y :\ x, y \in \mathbb{Z}\}.\end{aligned} \tag{2.1}$$

Remark 2.2. The second equality in (2.1) was first observed by Euler (cf. [3, p. 11]). The first equality in (2.1) is (1.10) of Sun [18].

Let $r \in \{1, 3\}$. By [2, pp. 112-113],

$$E(1,5,40) = \bigcup_{k\in\mathbb{N}} \{4k+3, 8k+2\} \cup \bigcup_{k,l\in\mathbb{N}} \{25^k(5l+2), 25^k(5l+3)\}.$$

Thus, for any $n \in \mathbb{N}$ we can write $40n + r^2 + 5 = x^2 + 5y^2 + 40z^2$ with $x, y, z \in \mathbb{Z}$. As $x^2 + 5y^2 \equiv r^2 + 5 \equiv 2 \pmod 4$, both x and y are odd.

Since $x^2\equiv r^2 \pmod 5$, x or $-x$ is congruent to r modulo 10. Thus, for some $u,v\in\mathbb{Z}$, we have

$$40n+r^2+5=(10u+r)^2+5(2v+1)^2+40z^2,\ \text{i.e.},\ n=\frac{u(5u+r)}{2}+T_v+z^2.$$

Therefore $(5,r,4,2,2,0)$ is universal over $\mathbb{Z}$.

Let $r\in\{1,3\}$ and $n\in\mathbb{N}$. By [16, Lemma 2.2], $40n+r^2+5=x^2+5y^2+5z^2$ for some $x,y,z\in\mathbb{Z}$ with x odd. As $x^2\equiv r^2 \pmod 5$ and $5(y^2+z^2)\equiv r^2+5-x^2\equiv 5 \pmod 8$, without loss of generality we may assume that $x=10u+r$, $y=2v+1$ and $z=4w$ with $u,v,w\in\mathbb{Z}$. Thus $40n+r^2+5=(10u+r)^2+5(2v+1)^2+80w^2$ and hence $n=u(5u+r)/2+T_v+2w^2$. Therefore $(5,r,4,2,4,0)$ is universal over $\mathbb{Z}$.

By Lemma 2.1, for any $n\in\mathbb{N}$ we can write $40n+11=x^2+5y^2+5(2z+1)^2$ for some $x,y,z\in\mathbb{Z}$. As $x^2+5y^2\equiv 11-5\equiv 2 \pmod 4$, both x and y are odd. Note that $x^2\equiv 1 \pmod 5$ and hence x or $-x$ is congruent to 1 modulo 10. Thus, for some $u,v\in\mathbb{Z}$, we have

$$40n+11=(10u+1)^2+5(2v+1)^2+5(2z+1)^2,\ \text{i.e.},\ n=\frac{u(5u+1)}{2}+T_v+T_z.$$

Therefore $(5,1,4,2,4,2)$ is universal over $\mathbb{Z}$, and also $(5,3,5,1,5,1)$ is universal over $\mathbb{Z}$ in view of (2.1). As $T_x+T_y+z(5z+3)/2$ is universal over $\mathbb{Z}$ by [14, Theorem 1.14], the tuples $(5,3,4,2,4,2)$ and $(5,3,5,3,5,1)$ are universal over $\mathbb{Z}$ in view of (2.1).

Since $T_x+T_y+T_z$, $T_x+T_y+z^2$ and $T_x+T_y+2z^2$ are all universal over $\mathbb{Z}$, by (2.1) the tuples $(5,3,5,1,4,2)$, $(5,3,5,1,2,0)$ and $(5,3,5,1,4,0)$ are universal over $\mathbb{Z}$.

As conjectured by Sun [14] and proved by Ju, Oh and Seo [9], $T_x+y(3y+1)/2+z(5z+3)/2$ is universal over $\mathbb{Z}$ and thus $(5,3,4,2,3,1)$ is universal over $\mathbb{Z}$. In view of [18, Theorem 1.11], the following tuples

$$\begin{gathered}(5,1,4,2,3,1),\ (5,1,3,1,2,0),\ (5,3,3,1,2,0),\ (5,1,3,1,3,1),\\ (5,3,3,1,3,1),\ (5,3,5,1,3,1),\ (5,1,5,1,3,1),\ (5,3,5,3,3,1)\end{gathered}$$

are all universal over $\mathbb{Z}$.

Let $r\in\{1,3\}$ and $n\in\mathbb{N}$. Since $E(1,1,5)=\{4^k(8l+3):\ k,l\in\mathbb{N}\}$ by Dickson [2, pp. 112-113], we have $40n+2r^2+5=x^2+y^2+5z^2$ for some $x,y,z\in\mathbb{Z}$. As $x^2+y^2\not\equiv 2r^2+5\equiv 3 \pmod 4$, $z=2w+1$ for some $w\in\mathbb{Z}$. As $x^2+y^2\equiv 2r^2+5-5z^2\equiv 2 \pmod 4$, both x and y are odd. Since $x^2+y^2\equiv 2r^2 \pmod 5$, we have $x^2\equiv y^2\equiv r \pmod 5$. So there are $u,v\in\mathbb{Z}$ such that

$$40n+2r^2+5=(10u+r)^2+(10v+r)^2+5(2w+1)^2$$

and hence

$$n = \frac{u(5u+r)}{2} + \frac{v(5v+r)}{2} + T_w.$$

Therefore $(5, r, 5, r, 4, 2)$ is a universal tuple over $\mathbb{Z}$.

In view of the above analysis, we have the following result.

Theorem 2.1. *Among those tuples (a, b, c, d, e, f) with $a = 5$ listed in the Appendix, only the following 10 tuples*

$$\begin{gathered}(5,1,2,0,2,0),\ (5,1,4,0,2,0),\ (5,1,4,0,3,1),\ (5,1,5,1,2,0),\\ (5,3,2,0,2,0),\ (5,3,4,0,2,0),\ (5,3,4,0,3,1),\ (5,3,4,0,4,0),\\ (5,3,5,3,2,0),\ (5,3,5,3,4,0)\end{gathered}$$

have not yet been proved to be universal over $\mathbb{Z}$.

Let $n \in \mathbb{N}$ and $r \in \{1, 3\}$. If $40n+r^2 = 5x^2+5y^2+z^2$ with $x, y, z \in \mathbb{Z}$ and $2 \nmid z$, then $z^2 = (10w + r)^2$ for some $w \in \mathbb{Z}$, x, y and $x/2 - y/2$ are even, hence

$$\begin{aligned}40n + r^2 =& 20\left(\frac{x}{2}\right)^2 + 20\left(\frac{y}{2}\right)^2 + z^2\\ =& 40\left(\frac{x+y}{4}\right)^2 + 40\left(\frac{x-y}{4}\right)^2 + (10w + r)^2\end{aligned}$$

and thus $n = u^2 + v^2 + w(5w + r)/2$ for some $u, v \in \mathbb{Z}$. The author [14, Remark 1.8] even conjectured that $20n + r^2 = 5x^2 + 5y^2 + z^2$ for some $x, y, z \in \mathbb{Z}$ with z odd, unless $r = 1$ and $n = 3$. This conjecture implies that $(5, 1, 2, 0, 2, 0)$ and $(5, 3, 2, 0, 2, 0)$ are universal over $\mathbb{Z}$.

In 1997 K. Ono and K. Soundararajan [11] proved that under the GRH (Generalized Riemann Hypothesis) any positive odd integer greater than 2719 can be represented by the famous Ramanujan form $x^2+y^2+10z^2$ with $x, y, z \in \mathbb{Z}$. Thus, under the GRH, for any $n \in \mathbb{N}$ we can write $20n+9$ as $x^2+y^2+10z^2$ with $x, y, z \in \mathbb{Z}$. As $x^2+y^2 \equiv 1 \equiv 9 \pmod 4$, we have $z = 2w$ for some $w \in \mathbb{Z}$. Since $x^2 + y^2 \equiv 3^2 \pmod 5$, without loss of generality we may assume that $x \equiv 0 \pmod 5$ and $y \equiv 3 \pmod 5$. Then $u = (x+y-3)/10$ and $v = (-x+y-3)/10$ are integral. Moreover,

$$20n + 9 = (5(u - v))^2 + (5u + 5v + 3)^2 + 10(2w)^2$$

and hence

$$40n + 18 = (10u + 3)^2 + (10v + 3)^2 + 40w^2.$$

Therefore, $n = 2w^2 + u(5u + 3)/2 + v(5v + 3)/2$. Thus the tuple $(5, 3, 5, 3, 4, 0)$ is universal over $\mathbb{Z}$ under the GRH.

3. ON UNIVERSAL TUPLES (a,b,c,d,e,f) OVER $\mathbb{Z}$ WITH $a=6$

By Dickson [2, pp. 112-113], we have

$$E(1,24,72)=\bigcup_{k\in\mathbb{N}}\{3k+2,\ 4k+2,\ 4k+3,\ 9k+3\}\cup\{4^k(8l+5):\ k,l\in\mathbb{N}\}.$$

So there are $x,y,z\in\mathbb{Z}$ such that $24n+1=72x^2+(6y+1)^2+24z^2$ and hence $n=3x^2+y(3y+1)/2+z^2$. This proves the universality of the tuple $(6,0,3,1,2,0)$ over $\mathbb{Z}$.

By the Gauss-Legendre theorem, for each $n\in\mathbb{N}$ we can write $12n+1=x^2+(2y)^2+(2z)^2$ with $x,y,z\in\mathbb{Z}$. If $3\nmid yz$, then $x^2\equiv 1-(2y)^2-(2z)^2\equiv -1\pmod 3$ which is impossible. Without loss of generality we assume that $z=3w$ with $w\in\mathbb{Z}$. Thus, for some $u,v\in\mathbb{Z}$, we have $24n+2=(x+2y)^2+(x-2y)^2+72w^2=(6u+1)^2+(6v+1)^2+72w^2$ and hence $n=u(3u+1)/2+v(3v+1)/2+3w^2$. So $(6,0,3,1,3,1)$ is universal over $\mathbb{Z}$.

By [5], the tuple $(6,0,4,2,2,0)$ (corresponding to $3x^2+T_y+z^2$) is universal over $\mathbb{Z}$. By [2, pp. 112-113],

$$E(1,3,18)=\bigcup_{k\in\mathbb{N}}\{3k+2,\ 9k+6\}\cup\{4^k(16l+10):\ k,l\in\mathbb{N}\}.$$

So, for each $n\in\mathbb{N}$ we can write $24n+4=18x^2+3y^2+z^2$ with $x,y,z\in\mathbb{Z}$. Clearly, $x=2w$ for some $w\in\mathbb{Z}$. As $3y^2+z^2\equiv 4\pmod 8$, by [14, Lemma 3.2] we have $3y^2+z^2=3(2u+1)^2+(2v+1)^2$ for some $u,v\in\mathbb{Z}$. Thus $24n+4=18(2w)^2+3(2u+1)^2+(2v+1)^2$. As $3\nmid 2v+1$, $(2v+1)^2=(6t+1)^2$ for some $t\in\mathbb{Z}$. Therefore $24n+4=72w^2+3(8T_u+1)+12t(3t+1)+1$ and hence $n=3w^2+T_u+t(3t+1)/2$. This proves the universality of $(6,0,4,2,3,1)$ over $\mathbb{Z}$.

By Wu and Sun [19], the tuples

$$(6,0,5,1,3,1),\ (6,0,5,3,3,1),\ (6,2,5,1,4,2),\ (6,4,5,1,4,2)$$

are all universal over $\mathbb{Z}$.

By [2, pp. 112-113],

$$E(1,12,12)=\bigcup_{k\in\mathbb{N}}\{4k+2,\ 4k+3\}\cup\{9^k(3l+2):\ k,l\in\mathbb{N}\}.$$

Thus, for each $n\in\mathbb{N}$ there are $x,y,z\in\mathbb{Z}$ such that $12n+1=x^2+12y^2+12z^2$. As $x\equiv\pm1\pmod 6$, we can write $x^2=(6w+1)^2$ with $w\in\mathbb{Z}$. Thus $12n+1=12w(3w+1)+1+12y^2+12z^2$ and hence $n=w(3w+1)+y^2+z^2$. So $(6,2,2,0,2,0)$ is universal over $\mathbb{Z}$.

By [2, pp. 112-113],

$$E(1,2,6)=\{4^k(8l+5):\ k,l\in\mathbb{N}\}.$$

Thus, for each $n \in \mathbb{N}$ we can write $24n+3 = 2x^2+y^2+6z^2$ with $x,y,z \in \mathbb{Z}$. If $2 \nmid z$, then $2 \mid x$ and $3 \equiv y^2+6z^2 \equiv 7 \pmod 8$ which is impossible. So $z = 2w$ for some $w \in \mathbb{Z}$. As $2x^2+y^2 \equiv 3$ (mod 2)4, by [14, Lemma 2.1] we can write $2x^2+y^2 = 2(6u+1)^2+(6v+1)^2$ with $u,v \in \mathbb{Z}$. Thus $24n+3 = 24u(3u+1)+1+12v(3v+1)+1+24w^2$ and hence $n = u(3u+1)+v(3v+1)/2+w^2$. This proves the universality of $(6,2,3,1,2,0)$ over $\mathbb{Z}$.

By [14, Theorem 1.7(i)], for each $n \in \mathbb{N}$ we can write $12n+1 = 3x^2+24y^2+z^2$ with $x,y,z \in \mathbb{Z}$. As $3x^2 \not\equiv 1 \pmod 4$, we must have $2 \mid x$ and $2 \nmid z$. Note that $z \equiv \pm 1 \pmod 6$. So there are $u,v \in \mathbb{Z}$ such that $12n+1 = 3(2u)^2+24y^2+(6v+1)^2$ and hence $n = u^2+2y^2+v(3v+1)$. This proves the universality of $(6,2,4,0,2,0)$ over $\mathbb{Z}$.

In view of [14, Theorem 1.1(ii)], $(6,2,3,1,3,1)$ (corresponding to $x(3x+1)+y(3y+1)/2+z(3z+1)/2)$ is universal over $\mathbb{Z}$. By [18, (1.7)],

$$\left\{x(3x+1)+\frac{y(3y+1)}{2} :\ x,y \in \mathbb{Z}\right\} = \{x^2+T_y :\ x,y \in \mathbb{Z}\}. \tag{3.1}$$

Since $x^2+2y^2+T_z$ is universal over $\mathbb{Z}$ (cf. [13]), so is $(6,2,4,0,3,1)$.

By [2, pp. 112-113],

$$E(2,3,6) = \{3k+1 :\ k \in \mathbb{N}\} \cup \{4^k(8l+7) :\ k,l \in \mathbb{N}\}.$$

Thus, for each $n \in \mathbb{N}$ we can write $24n+5 = 2x^2+3y^2+6z^2$ with $x,y,z \in \mathbb{Z}$. Clearly, $2 \nmid y$, $2 \mid z$ and $\gcd(x,6) = 1$. So there are $u,v,w \in \mathbb{Z}$ such that $24n+5 = 2(6w+1)^2+3(2u+1)^2+24v^2$ and hence $n = w(3w+1)+T_u+v^2$. This proves the universality of $(6,2,4,2,2,0)$ over $\mathbb{Z}$.

In view of (3.1), the universality of $(6,2,4,2,3,1)$ over $\mathbb{Z}$ is equivalent to the universality of $x^2+T_y+T_z$ which is well-known (cf. [13]).

By [2, pp. 112-113],

$$E(2,3,48) = \bigcup_{k \in \mathbb{N}} \{8k+1, 8k+7, 16k+6, 16k+10\} \cup \{9^k(3l+1) :\ k,l \in \mathbb{N}\}.$$

So, for each $n \in \mathbb{N}$ we can write $24n+5 = 2x^2+3y^2+48z^2$ with $x,y,z \in \mathbb{Z}$. Clearly $x^2 = (6u+1)^2$ and $y = 2v+1$ for some $u,v \in \mathbb{Z}$. So $n = u(3u+1)+T_y+2z^2$. This proves the universality of $(6,2,4,2,4,0)$ over $\mathbb{Z}$.

In view of (2.1), (3.1) and [14, Theorem 1.14],

$$(6,2,4,2,4,2),\ (6,2,5,3,3,1),\ (6,2,5,3,5,1),\ (6,4,4,2,2,0),$$
$$(6,4,4,2,3,1),\ (6,4,4,2,4,0),\ (6,4,4,2,4,2),\ (6,4,5,3,5,1),$$
$$(6,4,6,0,4,2)$$

are universal over $\mathbb{Z}$.

By [2, pp. 112-113],

$$E(3,10,30)=\bigcup_{k,l\in\mathbb{N}}\{4^k(8l+7),9^k(3l+2),25^k(5l+1),25^k(5l+4)\}.$$

So, for each $n\in\mathbb{N}$ we can write $120n+13=3x^2+10y^2+30z^2$ with $x,y,z\in\mathbb{Z}$. Clearly, $2\nmid x$, $10(y^2+3z^2)\equiv 13-3x^2\equiv 10 \pmod 8$ and hence $y^2-z^2\equiv 1 \pmod 4$. So $2\nmid y$ and $2\mid z$. Note that $\gcd(y,6)=1$ and $x\equiv\pm1 \pmod{10}$. So, there are $u,v,w\in\mathbb{Z}$ such that $120n+13=3(10u+1)^2+10(6v+1)^2+120w^2$ and hence $n=u(5u+1)/2+v(3v+1)+w^2$. This proves the universality of $(6,2,5,1,2,0)$ over $\mathbb{Z}$.

As shown in Section 2, $x^2+T_y+z(5z+1)/2$ (corresponding to the tuple $(5,1,4,2,2,0)$) is universal over $\mathbb{Z}$. Combining this with (3.1) we see that $(6,2,5,1,3,1)$ is universal over $\mathbb{Z}$.

For each $n\in\mathbb{N}$ we can write $120n+37=3x^2+10y^2+30z^2$ with $x,y,z\in\mathbb{Z}$. Clearly, $2\nmid x$ and $y^2-z^2\equiv 1 \pmod 4$, hence $2\nmid y$ and $2\mid z$. Note that $x\equiv\pm3 \pmod{10}$ and $\gcd(y,6)=1$. So there are $u,v,w\in\mathbb{Z}$ such that $120n+37=3(10u+3)^2+10(6v+1)^2+120w^2$ and hence $n=u(5u+3)/2+v(3v+1)+w^2$. This proves the universality of $(6,2,5,3,2,0)$ over $\mathbb{Z}$.

By [2, pp. 112-113],

$$E(1,12,36)=\bigcup_{k\in\mathbb{N}}\{3k+2,\ 4k+2,\ 4k+3\}\cup\{9^k(9l+6):\ k,l\in\mathbb{N}\}.$$

So, for each $n\in\mathbb{N}$ we can write $12n+1=x^2+36y^2+12z^2$ with $x,y,z\in\mathbb{Z}$. As $x\equiv\pm1 \pmod 6$, $x^2=(6w+1)^2$ for some $w\in\mathbb{Z}$. Thus $12n+1=(6w+1)^2+36y^2+12z^2$ and hence $n=w(3w+1)+3y^2+z^2$. So $(6,2,6,0,2,0)$ is universal over $\mathbb{Z}$.

By the Gauss-Legendre theorem and [15, Lemma 2.2(ii)], for each $n\in\mathbb{N}$ we can write $24n+3=x^2+y^2+z^2$ with $x,y,z\in\mathbb{Z}$ and $x\equiv y\equiv z\not\equiv 0 \pmod 3$. As x,y,z are odd, without loss of generality we may assume that $y\equiv z \pmod 4$. Let $u=(y+z)/2$ and $v=(y-z)/12$. Then $u^2+36v^2=(y^2+z^2)/2$ and hence $24n+3=x^2+2u^2+72v^2$. As $\gcd(xu,6)=1$, there are $s,t\in\mathbb{Z}$ such that $x^2+2u^2=(6s+1)^2+2(6t+1)^2$ and hence $n=s(3s+1)/2+t(3t+1)+3v^2$. This proves the universality of $(6,2,6,0,3,1)$ over $\mathbb{Z}$.

By [7, Theorem 8], for each $n\in\mathbb{N}$ we may write $24n+5=x^2+y^2+3z^2$ with $x,y,z\in\mathbb{Z}$ and $x\equiv y \pmod{12}$. Let $u=(x+y)/2$ and $v=(x-y)/12$. Then $u^2+36v^2=(x^2+y^2)/2$ and hence $24n+5=2u^2+72v^2+3z^2$. Clearly, $\gcd(u,6)=1$ and $2\nmid z$. So there are $s,t\in\mathbb{Z}$ such that $24n+5=2(6s+1)^2+72v^2+3(2t+1)^2$ and hence

$n=s(3s+1)+3v^2+T_t$. This proves the universality of $(6,2,6,0,4,2)$ over $\mathbb{Z}$.

By [2, pp. 112-113],

$$E(1,1,12)=\{4k+3:\ k\in\mathbb{N}\}\cup\{9^k(9l+6):\ k,l\in\mathbb{N}\}.$$

So, for each $n\in\mathbb{N}$ we can write $12n+2=x^2+y^2+12z^2$ with $x,y,z\in\mathbb{Z}$. As $\gcd(xy,6)=1$, there are $u,v\in\mathbb{Z}$ such that $12n+2=(6u+1)^2+(6v+1)^2+12z^2$ and hence $n=u(3u+1)+v(3v+1)+z^2$. This proves the universality of $(6,2,6,2,2,0)$ over $\mathbb{Z}$.

In view of [16, Theorem 1.2], the tuple $(6,2,6,2,4,2)$ is universal over $\mathbb{Z}$.

By [14, Theorem 1.1(ii)], $(6,2,6,2,3,1)$ is universal over $\mathbb{Z}$. By [14, Theorem 1.20], $(6,4,2,0,2,0)$ is universal over $\mathbb{Z}$. By [18, (1.8)],

$$\left\{\frac{x(3x+1)}{2}+y(3y+2):\ x,y\in\mathbb{Z}\right\}=\{T_x+2T_y:\ x,y\in\mathbb{Z}\}. \tag{3.2}$$

As $T_x+2T_y+2y^2$ is universal over $\mathbb{Z}$ by [13], so is the tuple $(6,4,4,0,3,1)$.

By [2, pp. 112-113],

$$E(1,8,24)=\bigcup_{k\in\mathbb{N}}\{4k+2,4k+3\}\cup\{4^k(8l+5):\ k,l\in\mathbb{N}\}.$$

Thus, for each $n\in\mathbb{N}$ we can write $24n+9=8x^2+y^2+24z^2$ with $x,y,z\in\mathbb{Z}$. By [14, Lemma 2.1], we may assume that $3\nmid xy$. Thus there are $u,v\in\mathbb{Z}$ such that $24n+9=8(3u+1)^2+(6v+1)^2+24z^2$ and hence $n=u(3u+2)+v(3v+1)/2+z^2$. This proves the universality of $(6,4,3,1,2,0)$ over $\mathbb{Z}$.

By [2, pp. 112-113],

$$E(1,1,8)=\bigcup_{k\in\mathbb{N}}\{4k+3,\ 16k+6\}\cup\{4^k(16l+14):\ k,l\in\mathbb{N}\}.$$

Thus, for each $n\in\mathbb{N}$ we can write $24n+10=8x^2+y^2+z^2$. One of y and z, say z, is not divisible by 3. As $8x^2+y^2$ is a positive integer divisible by 3, by [14, Lemma 2.1] we have $8x^2+y^2=8u^2+v^2$ for some $u,v\in\mathbb{Z}$ with $3\nmid uv$. Now $24n+10=8u^2+v^2+z^2$ with $\gcd(vz,6)=1$. So there are $r,s,t\in\mathbb{Z}$ such that $24n+10=8(3r+1)^2+(6s+1)^2+(6t+1)^2$ and hence $n=r(3r+2)+s(3s+1)/2+t(3t+1)/2$. This proves the universality of $(6,4,3,1,3,1)$ over $\mathbb{Z}$.

By [2, pp. 112-113],

$$\begin{aligned}E(3,40,120)=&\bigcup_{k,l\in\mathbb{N}}\{4^k(8l+7),9^k(3l+2),25^k(5l+1),25^k(5l+4)\}\\&\cup\bigcup_{k\in\mathbb{N}}\{4k+1,4k+2\}.\end{aligned}$$

Thus, for each $n\in\mathbb{N}$ we can write $120n+43=40x^2+3y^2+120z^2$ with $x,y,z\in\mathbb{Z}$. Clearly, $x\equiv\pm1\ (\mathrm{mod}\ 3)$ and $y\equiv\pm1$ (mod 1)0. So there are $u,v\in\mathbb{Z}$ such that $120n+43=40(3u+1)^2+3(10v+1)^2+120z^2$ and hence $n=u(3u+2)+v(5v+1)/2+z^2$. This proves the universality of $(6,4,5,1,2,0)$ over $\mathbb{Z}$.

In view of [19, Theorem 1.1], $T_x+2T_y+z(5z+1)/2$ is universal over $\mathbb{Z}$. Combining this with (3.2) we see that the tuple $(6,4,5,1,3,1)$ is universal over $\mathbb{Z}$.

By [2, pp. 112-113],

$$E(1,3,9)=\{3k+2:\ k\in\mathbb{N}\}\cup\{9^k(9l+6):\ k,l\in\mathbb{N}\}\tag{3.3}$$

and

$$E(1,6,9)=\{3k+2:\ k\in\mathbb{N}\}\cup\{9^k(3l+3):\ k,l\in\mathbb{N}\}.$$

Let $n\in\mathbb{N}$. Then there are $x,y,z\in\mathbb{Z}$ such that $3n+1=(3x+1)^2+9y^2+3z^2$ and hence $n=x(3x+2)+3y^2+z^2$. Also, there are $x,y,z\in\mathbb{Z}$ such that $3n+1=(3x+1)^2+9y^2+6z^2$ and hence $n=x(3x+2)+3y^2+2z^2$. So $(6,4,6,0,2,0)$ and $(6,4,6,0,4,0)$ are universal over $\mathbb{Z}$.

By the Gauss-Legendre theorem and [15, Lemma 2.2(ii)], for each $n\in\mathbb{N}$ we can write $24n+9=x^2+y^2+z^2$ with $x,y,z\in\mathbb{Z}$ and $3\nmid xyz$. One of x,y,z, say x, is odd. As $y^2+z^2\equiv0\ (\mathrm{mod}\ 8)$, there are $u,v\in\mathbb{Z}$ with $y=2u$ and $z=2v$ and $u\equiv v\ (\mathrm{mod}\ 2)$. Thus $24n+9=x^2+4(u^2+v^2)=x^2+8s^2+8t^2$, where $s=(u+v)/2$ and $t=(u-v)/2$. Clearly, exactly one of s and t is divisible by 3. So, there are $a,b,c\in\mathbb{Z}$ such that $24n+9=(6a+1)^2+8(3b+1)^2+72c^2$ and hence $n=a(3a+1)/2+b(3b+2)+9c^2$. Therefore $(6,4,6,0,4,0)$ is universal over $\mathbb{Z}$.

In view of [16, Theorem 1.2], $T_x+2T_y+z(3z+1)$ is universal over $\mathbb{Z}$. Combining this with (3.2) we see that $(6,4,6,2,3,1)$ is universal over $\mathbb{Z}$.

By [2, pp. 112-113],

$$E(1,1,24)=\bigcup_{k\in\mathbb{N}}\{4k+3,8k+6\}\cup\{9^k(9l+3):\ k,l\in\mathbb{N}\}.$$

So, for each $n\in\mathbb{N}$ we can write $12n+5=x^2+y^2+24z^2$ with $x,y,z\in\mathbb{Z}$. Clearly $3\nmid xy$ and $x\not\equiv y\ (\mathrm{mod}\ 2)$. So, there are $u,v\in\mathbb{Z}$

such that $12n+5=(2(3u+1))^2+(6v+1)^2+24z^2$ and hence $n=u(3u+2)+v(3v+1)+2z^2$. This proves the universality of $(6,4,6,2,4,0)$ over $\mathbb{Z}$.

By [2, pp. 112-113],

$$E(2,3,8)=\bigcup_{k\in\mathbb{N}}\{8k+1,8k+7,32k+4\}\cup\{9^k(9l+6):\ k,l\in\mathbb{N}\}.$$

So, for each $n\in\mathbb{N}$ we can write $24n+13=8x^2+2y^2+3z^2$ with $x,y,z\in\mathbb{Z}$. Clearly $3\nmid xy$ and $2\nmid yz$. So, there are $u,v,w\in\mathbb{Z}$ such that $24n+13=8(3u+1)^2+2(6v+1)^2+3(2w+1)^2$ and hence $n=u(3u+2)+v(3v+1)+T_z$. This proves the universality of $(6,4,6,2,4,2)$ over $\mathbb{Z}$.

Let $r\in\{1,3\}$. By [19, Theorem 1.1], $3T_x+y(3y+1)/2+z(5z+r)/2$ is universal over $\mathbb{Z}$. By [18, (1.11)],

$$\{x(3x+1)+y(3y+2):\ x,y\in\mathbb{Z}\}=\left\{3T_x+\frac{y(3y+1)}{2}:\ x,y\in\mathbb{Z}\right\}. \tag{3.4}$$

So $x(3x+1)+y(3y+2)+z(5z+r)/2$ is universal over $\mathbb{Z}$. Thus $(6,4,6,2,5,1)$ and $(6,4,6,2,5,3)$ are universal over $\mathbb{Z}$.

By [2, pp. 112-113],

$$E(1,8,8)=\bigcup_{k\in\mathbb{N}}\{4k+2,4k+3,8k+5\}\cup\{4^k(8l+7):\ k,l\in\mathbb{N}\}.$$

So, for each $n\in\mathbb{N}$ we can write $24n+17=8(x^2+y^2)+z^2$ with $x,y,z\in\mathbb{Z}$. One of x and y is not divisible by 3. Without loss of generality, we assume that $3\nmid x$. Then $8y^2+z^2$ is an odd integer divisible by 3. By [14, Lemma 2.1], $8y^2+8z^2=8u^2+v^2$ for some $u,v\in\mathbb{Z}$ with $3\nmid uv$. Note that $24n+17=8x^2+8u^2+v^2$ with $3\nmid xu$ and $\gcd(v,6)=1$. So, there are $r,s,t\in\mathbb{Z}$ such that $24n+17=(6r+1)^2+8(3s+1)^2+8(3t+1)^2$ and hence $n=r(3r+1)/2+s(3s+2)+t(3t+2)$. This proves the universality of $(6,4,6,4,3,1)$ over $\mathbb{Z}$.

By [2, pp. 112-113],

$$E(1,1,6)=\{9^k(9l+3):\ k,l\in\mathbb{N}\}.$$

So, for each $n\in\mathbb{N}$ we can write $3n+2=x^2+y^2+6z^2$ with $x,y,z\in\mathbb{Z}$. Clearly, $3\nmid xy$. So, there are $u,v\in\mathbb{Z}$ such that $3n+2=(3u+1)^2+(3v+1)^2+6z^2$ and hence $n=u(3u+2)+v(3v+2)+2z^2$. This proves the universality of $(6,4,6,4,4,0)$ over $\mathbb{Z}$.

By [2, pp. 112-113],

$$E(3,8,8)=\bigcup_{k\in\mathbb{N}}\{4k+1,4k+2,8k+7,32k+4\}\cup\{9^k(9l+3):\ k,l\in\mathbb{N}\}.$$

So, for each $n\in\mathbb{N}$ we can write $24n+19=8(x^2+y^2)+3z^2$ with $x,y,z\in\mathbb{Z}$. Clearly, $3\nmid xy$ and $2\nmid z$. So, there are $r,s,t\in\mathbb{Z}$ such that $24n+19=3(2r+1)^2+8(3s+1)^2+8(3t+1)^2$ and hence $n=T_r+s(3s+2)+t(3t+2)$. This proves the universality of $(6,4,6,4,4,2)$ over $\mathbb{Z}$.

By [14, Theorem 1.20], $(6,4,6,4,2,0)$ is universal over $\mathbb{Z}$. By [16],

$$(6,4,6,2,6,0),\ (6,4,6,2,6,2),\ (6,4,6,4,6,2)$$

are universal over $\mathbb{Z}$. By [9],

$$(6,2,5,3,4,2),\ (6,4,5,3,3,1),\ (6,4,5,3,4,2)$$

are universal over $\mathbb{Z}$.

In view of the above analysis, we have the following theorem.

Theorem 3.1. *Any ordered tuple (a,b,c,d,e,f) with $a=6$ listed in the Appendix not among the 16 tuples*

$$\begin{gathered}(6,0,4,0,3,1),\ (6,0,5,1,4,2),\ (6,0,5,3,4,2),\ (6,2,5,3,4,0),\\ (6,2,5,3,5,3),\ (6,2,6,0,5,3),\ (6,2,6,2,5,3),\ (6,4,5,1,4,0),\\ (6,4,5,1,5,1),\ (6,4,5,3,2,0),\ (6,4,5,3,4,0),\ (6,4,5,3,5,3),\\ (6,4,6,0,5,1),\ (6,4,6,0,5,3),\ (6,4,6,4,5,1),\ (6,4,6,4,5,3)\end{gathered}$$

is universal over $\mathbb{Z}$.

4. Proof of Theorem 1.2

Proof of Theorem 1.2(i). By [2, pp. 112-113],

$$\begin{aligned}E(1,16,16)=&\bigcup_{k\in\mathbb{N}}\{4k+2,4k+3,8k+5,16k+8,16k+12\}\\ &\cup\{4^k(8l+7):\ k,l\in\mathbb{N}\}.\end{aligned}$$

So, for each $n\in\mathbb{N}$ we can write $16n+1=16x^2+16y^2+z^2$ with $x,y,z\in\mathbb{Z}$. As $z^2\equiv1\pmod{16}$, we have $z\equiv\pm1\pmod 8$. So there is an integer w such that $16n+1=16x^2+16y^2+(8w+1)^2$ and hence $n=x^2+y^2+w(4w+1)$. This proves the universality of $x^2+y^2+z(4z+1)$ over $\mathbb{Z}$.

By [2, pp. 112-113], $E(2,3,3)=\{9^k(3l+1):\ k,l\in\mathbb{N}\}$. So, for each $n\in\mathbb{N}$ we can write $3n+2=3x^2+3y^2+2z^2$ with $x,y,z\in\mathbb{Z}$. Clearly, z or $-z$ has the form $3w+1$ with $w\in\mathbb{Z}$. Thus $3n+2=3x^2+3y^2+2(3w+1)^2$ and hence $n=x^2+y^2+2w(3w+2)$. This proves the universality of $x^2+y^2+2z(3z+2)$ over $\mathbb{Z}$.

In view of [16, Remark 3.1], for each $n\in\mathbb{N}$ we can write $6n+1=x^2+3y^2+6z^2$ with $x,y,z\in\mathbb{Z}$ and $2\nmid x$. Note that $\gcd(x,6)=1$ and

$2\mid y$. So there are $u,v\in\mathbb{Z}$ such that $6n+1=(6u+1)^2+3(2v)^2+6z^2$ and hence $n=2u(3u+1)+2v^2+z^2$. This proves the universality of $x^2+2y^2+2z(3z+1)$ over $\mathbb{Z}$.

By [2, pp. 112-113],

$$E(1,48,144)=\bigcup_{k\in\mathbb{N}}\{3k+2,4k+2,4k+3,8k+5,16k+8,16k+12\}$$
$$\cup\,\{9^k(9l+6):\ k,l\in\mathbb{N}\}.$$

Thus, for each $n\in\mathbb{N}$ we can write $24n+1=48x^2+144y^2+z^2$ with $x,y,z\in\mathbb{Z}$. Clearly, z or $-z$ has the form $6w+1$ with $w\in\mathbb{Z}$. So $24n+1=48x^2+144y^2+(6w+1)^2$ and hence $n=2x^2+6y^2+w(3w+1)/2$. This proves the universality of $2x^2+6y^2+z(3z+1)/2$ over $\mathbb{Z}$.

The proof of Theorem 1.2(i) is now complete. □

Proof of Theorem 1.2(ii). By [16, Remark 3.1], for each $n\in\mathbb{N}$ we can write $48n+37=(2x)^2+3y^2+6z^2$ with $x,y,z\in\mathbb{Z}$. Clearly, $2\nmid y$ and hence $4x^2+6z^2\equiv 37-3\equiv 2\pmod 8$. So $2\nmid z$. As $3y^2+6z^2\equiv 3+6\not\equiv 37\pmod 8$, we have $2\nmid x$ and hence $x\equiv\pm1\pmod 6$. Since $3y^2\equiv 37-4x^2-6z^2\equiv 37-4-6\equiv 27\pmod{16}$, we have $y\equiv\pm3\pmod 8$. So there are $u,v,w\in\mathbb{Z}$ such that $48n+37=6(2u+1)^2+4(6v+1)^2+3(8w+3)^2$ and hence $n=T_u+v(3v+1)+w(4w+3)$. This proves the universality of $(8,6,6,2,4,2)$ over $\mathbb{Z}$.

By the Gauss-Legendre theorem, for each $n\in\mathbb{N}$ we can write $72n+19=x^2+y^2+z^2$ with x,y,z odd. As $x^2+y^2+z^2\equiv 1\pmod 3$, exactly one of x,y,z, say x, is not divisible by 3. So there are $u,v,w\in\mathbb{Z}$ such that $72n+19=(6w+1)^2+9(2u+1)^2+9(2v+1)^2$. As $(6w+1)^2\equiv 19\equiv 1\pmod 9$, we have $9\mid 12w$ and hence $w=3t$ for some $t\in\mathbb{Z}$. Thus $72n+19=(18t+1)^2+9(2u+1)^2+9(2v+1)^2$ and hence $n=t(9t+1)/2+T_u+T_v$. This proves the universality of $(9,1,4,2,4,2)$ over $\mathbb{Z}$. Applying Lemma 2.2, we see that $(9,1,8,4,2,0)$ and $(9,1,5,3,5,1)$ are also universal over $\mathbb{Z}$.

By [14, Theorem 1.7(iii)], for each $n\in\mathbb{N}$ we can write $36n+5=x^2+y^2+36z^2$ with $x,y,z\in\mathbb{Z}$. Thus $72n+10=(x+y)^2+(x-y)^2+72z^2$. Clearly, both $x+y$ and $x-y$ are odd, and exactly one of them is divisible by 3. Thus there are $u,v\in\mathbb{Z}$ such that $72n+10=(6u+1)^2+(6v+3)^2+72z^2$. As $(6u+1)^2\equiv 10\equiv 1\pmod 9$, we have $u=3w$ for some $w\in\mathbb{Z}$. Thus $72n+10=(18w+1)^2+9(2v+1)^2+72z^2$ and hence $n=w(9w+1)/2+T_v+z^2$. This proves the universality of $(9,1,4,2,2,0)$. Combining this with (3.1), we see that $(9,1,6,2,3,1)$ is also universal over $\mathbb{Z}$.

By [19, Theorem 1.1], $3T_x+6T_y+z(3z+1)/2$ is universal over $\mathbb{Z}$. For each $n\in\mathbb{N}$ we can write $3n=3T_x+6T_y+z(3z+1)/2$ with

$x,y,z\in\mathbb{Z}$. Hence $72n+28=9(2x+1)^2+18(2y+1)^2+(6z+1)^2$. As $(6z+1)^2\equiv 1\pmod 9$, $z=3w$ for some $w\in\mathbb{Z}$. So $72n+28=9(8T_x+1)+18(8T_y+1)+(18w+1)^2$ and hence $n=T_x+2T_y+w(9w+1)/2$. In view of this and (3.2), both $(9,1,8,4,4,2)$ and $(9,1,6,4,3,1)$ are universal over $\mathbb{Z}$.

As $3T_x+6T_y+z(3z+1)/2$ is universal over $\mathbb{Z}$, for each $n\in\mathbb{N}$ we can write $3n+1=3T_x+6T_y+z(3z+1)/2$ with $x,y,z\in\mathbb{Z}$. Hence $72n+52=9(2x+1)^2+18(2y+1)^2+(6z+1)^2$. As $12z+1\equiv(6z+1)^2\equiv 5^2\pmod 9$, $z=-1-3w$ for some $w\in\mathbb{Z}$. Thus $72n+52=9(8T_x+1)+18(8T_y+1)+(18w+5)^2$ and hence $n=T_x+2T_y+w(9w+5)/2$. In view of this and (3.2), both $(9,5,8,4,4,2)$ and $(9,5,6,4,3,1)$ are universal over $\mathbb{Z}$.

In light of (3.3), for each $n\in\mathbb{N}$ we can write $72n+37=x^2+3y^2+9z^2$ with $x,y,z\in\mathbb{Z}$. As $3y^2\not\equiv 37\pmod 4$, x and z cannot be both even. If x is odd, then $y^2+3z^2\equiv 4\pmod 8$ and hence by [14, Lemma 3.2] we have $y^2+3z^2=y_0^2+3z_0^2$ with y_0 and z_0 both odd. Similarly, if z is odd, then $x^2+3y^2\equiv 4\pmod 8$ and hence by [14, Lemma 3.2] we have $x^2+3y^2=x_1^2+3y_1^2$ with x_1 and y_1 both odd. Thus, there are odd integers u,v,w with $u\not\equiv v\pmod 4$ such that

$$72n+37=u^2+3v^2+9w^2=\left(\frac{u+3v}{2}\right)^2+3\left(\frac{u-v}{2}\right)^2+9w^2.$$

Note that $(u-v)/2$ and $(u+3v)/2=(u-v)/2+2v$ are both odd. If $3\mid v$, then $3\nmid u$ and $(u-v)/2\not\equiv 0\pmod 3$. So there are $r,s,t\in\mathbb{Z}$ such that $72n+37=(6r+1)^2+3(6s+1)^2+9(2t+1)^2$. As $(6r+1)^2\equiv 37-3\equiv -2\pmod 9$, $r=-1-3q$ for some $q\in\mathbb{Z}$. Thus $72n+37=(18q+5)^2+3(6s+1)^2+9(8T_t+1)$ and hence $n=q(9q+5)/2+s(3s+1)/2+T_t$. This proves the universality of $(9,5,4,2,3,1)$ over $\mathbb{Z}$.

By [2, pp. 112-113],

$$\begin{aligned}E(5,8,40)=&\bigcup_{k\in\mathbb{N}}\{4k+2,\ 4k+3,\ 8k+1,\ 32k+12\}\\ &\cup\bigcup_{k,l\in\mathbb{N}}\{25^k(5l+1),\ 25^k(5l+4)\}.\end{aligned}$$

Thus, for each $n\in\mathbb{N}$ we can write $40n+13=5u^2+8v^2+40w^2$ with $u,v,w\in\mathbb{Z}$. As $2\nmid u$ and $v^2\equiv 1\pmod 5$, there are $x,y\in\mathbb{Z}$ such that $40n+13=5(2x+1)^2+8(5y+1)^2+40w^2$ and hence $n=T_x+y(5y+2)+w^2$. Combining this with (3.1), we see that $(10,4,4,2,2,0)$ and $(10,4,6,2,3,1)$ are universal over $\mathbb{Z}$.

Let $c \in \{1, 2, 4\}$. Since

$$E(5,6,15) = \bigcup_{k,l\in\mathbb{N}} \{3^k(16l+14),\ 9^k(3l+1),\ 25^k(5l+2),\ 25^k(5l+3)\}$$

by [2, pp. 112-113], for each $n \in \mathbb{N}$ we can write $120n+20+6c^2 = 15x^2 + 5y^2 + 6z^2$ with $x, y, z \in \mathbb{Z}$. Since $x \equiv y \pmod 2$, we have $5(3x^2 + y^2) \equiv 0 \pmod 4$ and hence $z \equiv c \pmod 2$. Since $5(3x^2+y^2) \equiv 20 \pmod 8$, we have $3x^2+y^2 \equiv 4 \pmod 8$. By [14, Lemma 3.2], $3x^2+y^2 = 3u^2+v^2$ for some $u, v \in \mathbb{Z}$ with $2 \nmid uv$. Thus $120n+20+6c^2 = 15u^2+5v^2+6z^2$. Note that $v \equiv \pm 1 \pmod 6$ and $z \equiv \pm c \pmod{10}$. So there are $r, s, t \in \mathbb{Z}$ such that $120n + 20 + 6c^2 = 15(2r + 1)^2 + 5(6s + 1)^2 + 6(10t + c)^2$ and hence $n = T_r + s(3s + 1)/2 + t(5t + c)$. This proves the universality of $(10, 2c, 4, 2, 3, 1)$ over $\mathbb{Z}$.

By [18, (1.9)],

$$\{x^2 + 4T_y :\ x, y \in \mathbb{Z}\} = \{2x(3x + 1) + y(3y + 2) :\ x, y \in \mathbb{Z}\}. \tag{4.1}$$

In view of this and (3.2), we have

$$\begin{aligned}&\left\{\frac{x(3x+1)}{2} + y^2 + 4T_z :\ x, y, z \in \mathbb{Z}\right\}\\ =&\left\{\frac{x(3x+1)}{2} + y(3y + 2) + 2z(3z + 1) :\ x, y, z \in \mathbb{Z}\right\}\\ =&\{T_x + 2T_y + 2z(3z + 1) :\ x, y, z \in \mathbb{Z}\}.\end{aligned}$$

By [14, Theorem 1.14], $T_x + 2T_y + 2z(3z + 1)$ is universal over $\mathbb{Z}$. So $x(3x + 1)/2 + y^2 + 4T_z$ is also universal over $\mathbb{Z}$, i.e., $(16, 8, 3, 1, 2, 0)$ is universal over $\mathbb{Z}$.

By [16, Remark 2.1], for any $n \in \mathbb{N}$ we can write $6n + 7 = (2x)^2 + 3y^2 + 6z^2$. As $3 \nmid x$ and $2 \nmid y$, there are $u, v \in \mathbb{Z}$ such that $6n + 7 = (2(3u + 1))^2 + 3(2v + 1)^2 + 6z^2$ and hence $n = 2u(3u + 2) + 4T_v + z^2$. So $(16, 8, 12, 8, 2, 0)$ is universal over $\mathbb{Z}$. Combining this with (4.1), we see that $(12, 8, 12, 4, 6, 4)$ is also universal over $\mathbb{Z}$.

By [19], $3T_x + 6T_y + z(3z + 1)/2$ is universal over $\mathbb{Z}$. Applying (3.2) we see that $3x(3x + 2) + 3y(3y + 1)/2 + z(3z + 1)/2$ is universal over $\mathbb{Z}$ (i.e., the tuple $(18, 12, 9, 3, 3, 1)$ is universal over $\mathbb{Z}$). Combining this with (1.1) we find that $(18, 12, 4, 2, 3, 1)$ is universal over $\mathbb{Z}$.

So far we have also completed the proof of Theorem 1.2(ii). □

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REFERENCES

[1] B. C. Berndt, *Number Theory in the Spirit of Ramanujan*, Amer. Math. Soc., Providence, RI, 2006.

[2] L. E. Dickson, *Modern Elementary Theory of Numbers*, University of Chicago Press, Chicago, 1939.

[3] L. E. Dickson, *History of the Theory of Numbers*, Vol. II, AMS Chelsea Publ., 1999.

[4] F. Ge and Z.-W. Sun, *On some universal sums of generalized polygonal numbers*, Colloq. Math. 145 (2016), 149–155.

[5] S. Guo, H. Pan and Z.-W. Sun, *Mixed sums of squares and triangular numbers (II)*, Integers 7 (2007), #A56, 5pp (electronic)

[6] R. K. Guy, *Every number is expressible as the sum of how many polygonal numbers?* Amer. Math. Monthly 101 (1994), 169–172.

[7] B. W. Jones and G. Pall, *Regular and semi-regular positive ternary quadratic forms*, Acta Math. 70 (1939), 165–191.

[8] J. Ju and B.-K. Oh, *A generalization of Gauss' triangular theorem*, Bull. Korean Math. Soc. 55 (2018), 1149–1159.

[9] J. Ju, B.-K. Oh and B. Seo, *Ternary universal sums of generalized polygonal numbers*, Int. J. Number Theory, in press. See also `arXiv:1612.01157`, 2016

[10] B.-K. Oh, *Ternary universal sums of generalized pentagonal numbers*, J. Korean Math. Soc. 48 (2011), 837–847.

[11] B.-K. Oh and Z.-W. Sun, *Mixed sums of squares and triangular numbers (III)*, J. Number Theory 129 (2009), 964–969.

[12] X.-Y. Su, *On universal representation of the forms* $aT_x + bT_y + cp_5(z)$ *and* $aT_x + bp_5(y) + cp_5(z)$, Master Thesis, Nanjing Univ., 2016.

[13] Z.-W. Sun, *Mixed sums of squares and triangular numbers*, Acta Arith. 127 (2007), 103–113.

[14] Z.-W. Sun, *On universal sums of polygonal numbers*, Sci. China Math. 58 (2015), 1367–1396.

[15] Z.-W. Sun, *A result similar to Lagrange's theorem*, J. Number Theory 162 (2016), 190–211.

[16] Z.-W. Sun, *On* $x(ax+1)+y(by+1)+z(cz+1)$ *and* $x(ax+b)+y(ay+c)+z(az+d)$, J. Number Theory 171 (2017), 275–283.

[17] Z.-W. Sun, Sequence A286944 in OEIS (On-Line Encyclopedia of Integer Sequences), `http://oeis.org/A286944`, 2017.

[18] Z.-W. Sun, *Universal sums of three quadratic polynomials*, Sci. China Math., in press, `https://doi.org/10.1007/s11425-017-9354-4`.

[19] H.-L. Wu and Z.-W. Sun, *Some universal quadratic sums over the integers*, preprint, `arXiv:1707.06223`, 2017.

Appendix

In this appendix, we list all the 12082 candidates of universal tuples (a,b,c,d,e,f) over $\mathbb{Z}$. Those tuples marked with $*$ have been proved to be universal over $\mathbb{Z}$.

$(3,1,2,0,2,0)^*,\ (3,1,3,1,2,0)^*,\ (3,1,3,1,3,1)^*,\ (4,0,3,1,2,0)^*,$
$(4,0,3,1,3,1)^*,\ (4,2,2,0,2,0)^*,\ (4,2,3,1,2,0)^*,\ (4,2,3,1,3,1)^*,$
$(4,2,4,0,2,0)^*,\ (4,2,4,0,3,1)^*,\ (4,2,4,0,4,0)^*,\ (4,2,4,2,2,0)^*,$
$(4,2,4,2,3,1)^*,\ (4,2,4,2,4,0)^*,\ (4,2,4,2,4,2)^*,\ (5,1,2,0,2,0),$
$(5,1,3,1,2,0)^*,\ (5,1,3,1,3,1)^*,\ (5,1,4,0,2,0),\ (5,1,4,0,3,1),$
$(5,1,4,2,2,0)^*,\ (5,1,4,2,3,1)^*,\ (5,1,4,2,4,0)^*,\ (5,1,4,2,4,2)^*,$
$(5,1,5,1,2,0),\ (5,1,5,1,3,1)^*,\ (5,1,5,1,4,2)^*,\ (5,3,2,0,2,0),$
$(5,3,3,1,2,0)^*,\ (5,3,3,1,3,1)^*,\ (5,3,4,0,2,0),\ (5,3,4,0,3,1),$
$(5,3,4,0,4,0),\ (5,3,4,2,2,0)^*,\ (5,3,4,2,3,1)^*,\ (5,3,4,2,4,0)^*,$
$(5,3,4,2,4,2)^*,\ (5,3,5,1,2,0)^*,\ (5,3,5,1,3,1)^*,\ (5,3,5,1,4,0)^*,$
$(5,3,5,1,4,2)^*,\ (5,3,5,1,5,1)^*,\ (5,3,5,3,2,0),\ (5,3,5,3,3,1)^*,$
$(5,3,5,3,4,0),\ (5,3,5,3,4,2)^*,\ (5,3,5,3,5,1)^*,\ (6,0,3,1,2,0)^*,$
$(6,0,3,1,3,1)^*,\ (6,0,4,0,3,1),\ (6,0,4,2,2,0)^*,\ (6,0,4,2,3,1)^*,$
$(6,0,5,1,3,1)^*,\ (6,0,5,1,4,2),\ (6,0,5,3,3,1)^*,\ (6,0,5,3,4,2),$
$(6,2,2,0,2,0)^*,\ (6,2,3,1,2,0)^*,\ (6,2,3,1,3,1)^*,\ (6,2,4,0,2,0)^*,$
$(6,2,4,0,3,1)^*,\ (6,2,4,2,2,0)^*,\ (6,2,4,2,3,1)^*,\ (6,2,4,2,4,0)^*,$
$(6,2,4,2,4,2)^*,\ (6,2,5,1,2,0)^*,\ (6,2,5,1,3,1)^*,\ (6,2,5,1,4,2)^*,$
$(6,2,5,3,2,0)^*,\ (6,2,5,3,3,1)^*,\ (6,2,5,3,4,0),\ (6,2,5,3,4,2)^*,$
$(6,2,5,3,5,1)^*,\ (6,2,5,3,5,3),\ (6,2,6,0,2,0)^*,\ (6,2,6,0,3,1)^*,$
$(6,2,6,0,4,2)^*,\ (6,2,6,0,5,3),\ (6,2,6,2,2,0)^*,\ (6,2,6,2,3,1)^*,$
$(6,2,6,2,4,2)^*,\ (6,2,6,2,5,3),\ (6,4,2,0,2,0)^*,\ (6,4,3,1,2,0)^*,$
$(6,4,3,1,3,1)^*,\ (6,4,4,0,3,1)^*,\ (6,4,4,2,2,0)^*,\ (6,4,4,2,3,1)^*,$
$(6,4,4,2,4,0)^*,\ (6,4,4,2,4,2)^*,\ (6,4,5,1,2,0)^*,\ (6,4,5,1,3,1)^*,$
$(6,4,5,1,4,0),\ (6,4,5,1,4,2)^*,\ (6,4,5,1,5,1),\ (6,4,5,3,2,0),$
$(6,4,5,3,3,1)^*,\ (6,4,5,3,4,0),\ (6,4,5,3,4,2)^*,\ (6,4,5,3,5,1)^*,$
$(6,4,5,3,5,3),\ (6,4,6,0,2,0)^*,\ (6,4,6,0,3,1)^*,\ (6,4,6,0,4,0)^*,$
$(6,4,6,0,4,2)^*,\ (6,4,6,0,5,1),\ (6,4,6,0,5,3),\ (6,4,6,2,2,0)^*,$

$(6,4,6,2,3,1)^*,\ (6,4,6,2,4,0)^*,\ (6,4,6,2,4,2)^*,\ (6,4,6,2,5,1)^*,$
$(6,4,6,2,5,3)^*,\ (6,4,6,2,6,0)^*,\ (6,4,6,2,6,2)^*,\ (6,4,6,4,2,0)^*,$
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$(6,4,6,4,5,3),\ (6,4,6,4,6,2)^*,$

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$(7,5,6,2,4,2),\ (7,5,6,2,5,1),\ (7,5,6,2,5,3),\ (7,5,6,2,6,0),$
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$(8,0,6,0,3,1),\ (8,0,6,2,3,1)^*,\ (8,0,6,2,4,2)^*,\ (8,0,6,2,5,3),$
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$(8,0,7,1,3,1),\ (8,0,7,3,3,1),\ (8,0,7,3,6,4),\ (8,0,7,5,3,1),$
$(8,0,7,5,5,1),\ (8,0,7,5,6,2),\ (8,2,2,0,2,0)^*,\ (8,2,3,1,2,0),$
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$(8,2,4,2,4,0),\ (8,2,4,2,4,2)^*,\ (8,2,5,1,2,0),\ (8,2,5,1,3,1),$
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$(8,4,3,1,3,1)^*,\ (8,4,4,0,2,0)^*,\ (8,4,4,0,3,1),\ (8,4,4,2,2,0)^*,$
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$(8,4,5,1,3,1)^*,\ (8,4,5,1,4,2)^*,\ (8,4,5,3,2,0)^*,\ (8,4,5,3,3,1)^*,$
$(8,4,5,3,4,0),\ (8,4,5,3,4,2)^*,\ (8,4,5,3,5,1)^*,\ (8,4,5,3,5,3),$
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$(8,4,6,2,4,2)^*,\ (8,4,6,2,5,3),\ (8,4,6,4,2,0)^*,\ (8,4,6,4,3,1)^*,$
$(8,4,6,4,4,0),\ (8,4,6,4,4,2)^*,\ (8,4,6,4,5,1),\ (8,4,6,4,5,3),$
$(8,4,6,4,6,0)^*,\ (8,4,6,4,6,2),\ (8,4,6,4,6,4),\ (8,4,7,1,2,0)^*,$
$(8,4,7,1,3,1),\ (8,4,7,1,4,2)^*,\ (8,4,7,1,5,3),\ (8,4,7,1,6,4),$
$(8,4,7,3,2,0)^*,\ (8,4,7,3,3,1),\ (8,4,7,3,4,2)^*,\ (8,4,7,3,5,3),$
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$(8,4,7,5,5,1),\ (8,4,7,5,5,3),\ (8,4,7,5,6,2),\ (8,4,7,5,6,4),$
$(8,4,7,5,7,1),\ (8,4,7,5,7,3),\ (8,4,8,0,2,0)^*,\ (8,4,8,0,3,1),$
$(8,4,8,0,4,2)^*,\ (8,4,8,0,5,3),\ (8,4,8,0,6,4),\ (8,4,8,2,2,0)^*,$
$(8,4,8,2,3,1),\ (8,4,8,2,4,2)^*,\ (8,4,8,2,5,3),\ (8,4,8,2,6,4),$
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$(8,4,8,4,5,3),\ (8,4,8,4,6,4),\ (8,6,2,0,2,0)^*,\ (8,6,3,1,2,0),$

$(8,6,3,1,3,1)^*,\ (8,6,4,0,2,0),\ (8,6,4,0,3,1),\ (8,6,4,2,2,0)^*,$
$(8,6,4,2,3,1)^*,\ (8,6,4,2,4,0),\ (8,6,4,2,4,2),\ (8,6,5,1,2,0),$
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$(8,6,6,0,3,1),\ (8,6,6,0,4,2),\ (8,6,6,2,2,0),\ (8,6,6,2,3,1)^*,$
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$(8,6,6,2,6,0),\ (8,6,6,2,6,2),\ (8,6,6,4,2,0),\ (8,6,6,4,3,1)^*,$
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$(8,6,7,1,4,2),\ (8,6,7,1,5,1),\ (8,6,7,1,5,3),\ (8,6,7,1,6,2),$
$(8,6,7,1,6,4),\ (8,6,7,3,2,0),\ (8,6,7,3,3,1),\ (8,6,7,3,4,2),$
$(8,6,7,3,5,1),\ (8,6,7,3,5,3),\ (8,6,7,3,6,2),\ (8,6,7,3,6,4),$
$(8,6,7,3,7,1),\ (8,6,7,5,2,0),\ (8,6,7,5,3,1),\ (8,6,7,5,4,2),$
$(8,6,7,5,5,1),\ (8,6,7,5,5,3),\ (8,6,7,5,6,2),\ (8,6,7,5,7,3),$
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$(8,6,8,2,5,3),\ (8,6,8,2,6,2),\ (8,6,8,2,6,4),\ (8,6,8,2,7,3),$
$(8,6,8,4,2,0)^*,\ (8,6,8,4,3,1),\ (8,6,8,4,4,0),\ (8,6,8,4,4,2)^*,$
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$(8,6,8,4,7,3),\ (8,6,8,4,8,2)^*,\ (8,6,8,6,3,1),\ (8,6,8,6,6,2),$

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$(9,1,4,2,2,0)^*,\ (9,1,4,2,3,1),\ (9,1,4,2,4,0),\ (9,1,4,2,4,2)^*,$
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$(9,1,7,5,7,3),\ (9,1,8,2,3,1),\ (9,1,8,4,2,0)^*,\ (9,1,8,4,3,1),$

$$\begin{gathered}
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(9,5,6,4,4,2),\ (9,5,6,4,5,1),\ (9,5,6,4,5,3),\ (9,5,6,4,6,2),\\
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(9,5,8,2,5,3),\ (9,5,8,2,7,5),\ (9,5,8,4,2,0),\ (9,5,8,4,3,1),\\
(9,5,8,4,4,2)^*,\ (9,5,8,4,5,3),\ (9,5,8,4,6,4),\ (9,5,8,4,7,5),\\
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(9,5,8,6,5,3),\ (9,5,8,6,6,2),\ (9,5,8,6,6,4),\ (9,5,8,6,7,3),\\
(9,5,8,6,8,2),\ (9,5,8,6,8,4),\ (9,5,9,1,2,0),\ (9,5,9,1,3,1),
\end{gathered}$$

$(9,5,9,1,4,2),\ (9,5,9,1,5,3),\ (9,5,9,1,6,4),\ (9,5,9,1,7,5),$
$(9,5,9,1,8,6),\ (9,5,9,3,2,0),\ (9,5,9,3,3,1),\ (9,5,9,3,4,2),$
$(9,5,9,3,5,3),\ (9,5,9,3,6,4),\ (9,5,9,3,7,5),\ (9,5,9,3,8,6),$
$(9,5,9,5,3,1),\ (9,7,3,1,2,0),\ (9,7,3,1,3,1),\ (9,7,4,0,3,1),$
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$(10,4,7,3,6,4),\ (10,4,7,5,2,0),\ (10,4,7,5,3,1),\ (10,4,7,5,4,2),$
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$(10,4,7,5,7,3),\ (10,4,8,0,3,1),\ (10,4,8,2,3,1),\ (10,4,8,4,2,0),$
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$(10,4,9,5,6,4),\ (10,4,9,5,7,5),\ (10,4,9,5,8,6),\ (10,4,9,7,3,1),$
$(10,4,9,7,4,2),\ (10,4,9,7,5,1),\ (10,4,9,7,7,3),\ (10,4,9,7,7,5),$
$(10,4,9,7,8,4),\ (10,4,10,2,3,1),\ (10,4,10,4,3,1),\ (10,6,2,0,2,0),$
$(10,6,3,1,2,0),\ (10,6,3,1,3,1),\ (10,6,4,0,3,1),\ (10,6,4,2,2,0)^*,$
$(10,6,4,2,3,1)^*,\ (10,6,4,2,4,0),\ (10,6,4,2,4,2),\ (10,6,5,1,3,1),$
$(10,6,5,1,4,2),\ (10,6,5,3,2,0),\ (10,6,5,3,3,1),\ (10,6,5,3,4,0),$
$(10,6,5,3,4,2)^*,\ (10,6,5,3,5,1),\ (10,6,6,0,3,1),\ (10,6,6,2,2,0),$
$(10,6,6,2,3,1)^*,\ (10,6,6,2,4,2),\ (10,6,6,2,5,3),\ (10,6,6,4,2,0),$
$(10,6,6,4,3,1)^*,\ (10,6,6,4,4,2),\ (10,6,6,4,5,1),\ (10,6,6,4,5,3),$
$(10,6,6,4,6,0),\ (10,6,6,4,6,2),\ (10,6,6,4,6,4),\ (10,6,7,1,2,0),$
$(10,6,7,1,3,1),\ (10,6,7,1,4,2),\ (10,6,7,1,5,3),\ (10,6,7,1,6,4),$
$(10,6,7,3,2,0),\ (10,6,7,3,3,1),\ (10,6,7,3,4,2),\ (10,6,7,3,5,3),$
$(10,6,7,3,6,4),\ (10,6,7,5,2,0),\ (10,6,7,5,3,1),\ (10,6,7,5,4,2),$
$(10,6,7,5,5,3),\ (10,6,7,5,6,2),\ (10,6,7,5,6,4),\ (10,6,7,5,7,1),$
$(10,6,7,5,7,3),\ (10,6,8,0,2,0),\ (10,6,8,0,3,1),\ (10,6,8,0,4,2),$
$(10,6,8,0,5,3),\ (10,6,8,0,6,4),\ (10,6,8,2,3,1),\ (10,6,8,2,4,2),$
$(10,6,8,2,5,3),\ (10,6,8,2,6,4),\ (10,6,8,4,2,0),\ (10,6,8,4,3,1),$
$(10,6,8,4,4,2),\ (10,6,8,4,5,3),\ (10,6,8,4,6,4),\ (10,6,8,4,7,5),$
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$(10,6,8,6,6,2),\ (10,6,8,6,6,4),\ (10,6,8,6,7,1),\ (10,6,8,6,8,2),$
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$(10,6,9,1,6,4),\ (10,6,9,1,7,5),\ (10,6,9,1,8,6),\ (10,6,9,3,3,1)^*,$
$(10,6,9,3,6,4),\ (10,6,9,5,2,0),\ (10,6,9,5,3,1),\ (10,6,9,5,4,2),$
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$(10,6,9,7,8,4),\ (10,6,9,7,9,1),\ (10,6,9,7,9,3),\ (10,6,10,2,2,0)^*,$
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$(10,8,4,2,2,0)^*,\ (10,8,4,2,3,1)^*,\ (10,8,4,2,4,0),\ (10,8,4,2,4,2)^*,$
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